Supreme Court, U.S.
FILED
FEB 25 2015
CLERK

Nos. 14-46, 14-47 and 14-49

In the Supreme Court of the United States

STATE OF MICHIGAN, ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

UTILITY AIR REGULATORY GROUP, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

NATIONAL MINING ASSOCIATION, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON WRITS OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENTS

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QUESTION PRESENTED

Whether the Environmental Protection Agency unreasonably refused to consider costs in determining whether it is appropriate to regulate hazardous air pollutants emitted by electric utilities.

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OPINIONS BELOW

The opinion of the court of appeals (Pet. App. 1a-98a) is reported at 748 F.3d 1222.[1] The final rule promulgated by the Environmental Protection Agency

[1] Citations to Pet. App. are to the appendix to the petition for a writ of certiorari filed by the National Mining Association in No. 14-49.

(Pet. App. 196a-1160a) is published in 77 Fed. Reg. 9304.

JURISDICTION

The judgment of the court of appeals (Pet. App. 99a-100a) was entered on April 15, 2014. The three petitions for writs of certiorari were filed on July 14, 2014. Those petitions were granted on November 25, 2014, limited to the following question: "Whether the Environmental Protection Agency unreasonably refused to consider costs in determining whether it is appropriate to regulate hazardous air pollutants emitted by electric utilities." The jurisdiction of this Court rests on 28 U.S.C. 1254(1).

STATUTES INVOLVED

Pertinent provisions of the Clean Air Act, 42 U.S.C. 7401 *et seq.*, are reprinted in the appendix to this brief. App., *infra*, 1a-60a.

STATEMENT

This case involves the determination of the Environmental Protection Agency (EPA) that it is "appropriate and necessary" to regulate emissions of hazardous air pollutants from coal- and oil-fired power plants under the Clean Air Act (CAA or Act), 42 U.S.C. 7412(n)(1)(A). EPA concluded that costs are not relevant to the decision whether to regulate such emissions, but that costs should instead be taken into account when setting emission standards under 42 U.S.C. 7412(d). When EPA promulgated those standards, it issued a Regulatory Impact Analysis (RIA) estimating that the total quantifiable benefits of those standards would exceed their total costs by between $27 billion and $80 billion (measured in 2007 dollars) each year. 77 Fed. Reg. 9305-9306 (Feb. 16,

2012) (2012 Final Rule). The court of appeals upheld EPA's decision not to consider costs when making the threshold listing decision as "clearly permissible" under *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837 (1984). Pet. App. 25a.

1. a. The CAA's core purpose is "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. 7401(b)(1). To that end, the Act establishes a comprehensive set of regulatory programs to control air pollution from both stationary and mobile sources. Such programs include the National Ambient Air Quality Standards (NAAQS) program, see 42 U.S.C. 7408-7410; the New Source Performance Standards (NSPS) program, see 42 U.S.C. 7411; the National Emissions Standards for Hazardous Air Pollutants (NESHAP) program, see 42 U.S.C. 7412; and the Motor Vehicle Emission and Fuel Standards program, see 42 U.S.C. 7521-7544, 7547-7554.

For each of those programs, the Act establishes a multistage regulatory process in which *first* EPA makes a determination about the dangers posed to public health or welfare by certain types of pollution, and *then* EPA or the States promulgate emission standards that sources must meet to address those dangers. See 42 U.S.C. 7408(a), 7409(a), (b) and (d)(1), 7410, 7411(b), 7412(c) and (d), 7521(a). EPA does not consider costs when assessing the dangers at the first stage, but it does consider costs, in accordance with the relevant provisions, when setting standards at the second stage. See *ibid.*

b. This case involves the NESHAP program, under which EPA regulates stationary-source emissions of

more than 180 "hazardous air pollutants" specifically identified in 42 U.S.C. 7412(b). Such pollutants cause serious health impacts, such as cancer, neurological disorders, reproductive dysfunctions, and death. H.R. Rep. No. 490, 101st Cong., 2d Sess. 315 (1990) (1990 House Report).[2]

As originally established in 1970, the NESHAP program required EPA to generate the list of hazardous air pollutants and to establish health-based emission standards for each one. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 112(b)(1)(A) and (B), 84 Stat. 1685. By 1990, however, EPA had set standards for only seven pollutants, and those standards applied only to a handful of source categories. *New Jersey* v. *EPA*, 517 F.3d 574, 578 (D.C. Cir. 2008), cert. dismissed, 555 U.S. 1162, and, cert. denied, 555 U.S. 1169 (2009); 1990 House Report 322; S. Rep. No. 228, 101st Cong., 1st Sess. 131 (1989) (1989 Senate Report).

Frustrated by the slow pace of regulation, Congress completely overhauled the NESHAP program in the Clean Air Act Amendments of 1990 (1990 Amendments), Pub. L. No. 101-549, Tit. III, § 301, 104 Stat. 2531. In doing so, Congress eliminated much of EPA's discretion under the original statute.

First, the 1990 Amendments included a list of more than 180 hazardous air pollutants to be regulated. 42 U.S.C. 7412(b)(1) (Supp. II 1990). Congress also directed EPA to publish and revise "a list of all cate-

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[2] The CAA distinguishes hazardous air pollutants from "criteria air pollutants"—ozone, particulate matter, nitrogen oxides, sulfur dioxide, lead, and carbon monoxide—which are regulated under the NAAQS program. 1990 House Report 196, 315; see 42 U.S.C. 7408-7410.

gories and subcategories of major sources" of the listed pollutants. 42 U.S.C. 7412(c)(1). A "major source" is any stationary source or group of stationary sources at a single location and under common control that emits or has the potential to emit ten tons per year or more of any single hazardous air pollutant, or 25 tons per year or more of any combination of hazardous air pollutants. 42 U.S.C. 7412(a)(1). The 1990 Amendments also required EPA to list any category or subcategory of "area sources"—defined to include stationary sources of hazardous air pollution that are not "major source[s]"—that the agency concludes "presents a threat of adverse effects to human health or the environment * * * warranting regulation under this section." 42 U.S.C. 7412(a)(2), (c)(1) and (3).

EPA's decision to list a source category imposes no direct obligation on any regulated entity and is not "final agency action" subject to judicial review. 42 U.S.C. 7412(e). The listing decision does, however, require EPA to promulgate emission standards for listed hazardous air pollutants emitted by sources within that category. 42 U.S.C. 7412(d)(1). Those standards generally must "require the maximum degree of reduction in emissions of the [listed] hazardous air pollutants * * * that [EPA] * * * determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies." 42 U.S.C. 7412(d)(2); see 42 U.S.C. 7412(d)(5) (authorizing alternative standard for area sources).

Congress prescribed a specific methodology for identifying the "maximum degree of reduction" that is "achievable" by sources within a particular category.

42 U.S.C. 7412(d)(3). In general, for existing plants, the emission standard "shall not be less stringent, and may be more stringent than" the average emission limitation that is already being achieved by the best-performing 12% of existing sources. 42 U.S.C. 7412(d)(3)(A); see 42 U.S.C. 7412(d)(3)(B) (requiring EPA to set standards that are at least as stringent as the average emission limitations of the five best performers for source categories with fewer than 30 sources). The practical effect of that requirement is to create an irrebuttable presumption that a particular degree of emission reduction is "achievable" by sources within a category if it is actually being achieved by a significant percentage of such sources. In determining whether more stringent standards should be imposed on sources within a particular category—*i.e.*, whether greater emission reductions are "achievable" by such sources—EPA must consider such factors as cost, energy requirements, and other health and environmental impacts. 42 U.S.C. 7412(d)(2). EPA refers to standards set at the minimally stringent level as "floor" standards, and to more stringent standards as "beyond-the-floor" standards. 77 Fed. Reg. at 9307.

Section 7412 authorizes EPA to delete particular source categories from the list in specified circumstances. See 42 U.S.C. 7412(c)(9)(B)(i) and (ii). Section 7412 does not authorize EPA to consider the costs of complying with the Section 7412(d) emission standards in determining whether to delist a particular source category.[3]

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[3] The 1990 Amendments also require EPA to review Section 7412(d) standards within eight years after they are promulgated to ensure that they are sufficient to protect public health with an

c. This case involves one source category of hazardous air pollutants—coal- and oil-fired "electric utility steam generating unit[s]," *i.e.*, power plants. 42 U.S.C. 7412(a)(8). The 1990 Amendments established a special procedure that EPA must follow before deciding whether to list power plants for regulation under the NESHAP program. If EPA determines that power plants should be listed, however, it must set emission standards in accordance with the same statutory provisions that apply to other listed source categories. See 42 U.S.C. 7412(n)(1)(A) (stating that EPA "shall regulate [power plants] under [Section 7412], if [EPA] finds such regulation is appropriate and necessary"); Pet. App. 36a-38a.

Congress required EPA to perform, within three years of the 1990 Amendments, "a study of the hazards to public health reasonably anticipated to occur as a result of emissions" of listed hazardous air pollutants from power plants "after imposition of the requirements" set forth elsewhere in the Act. 42 U.S.C. 7412(n)(1)(A). That provision reflects the fact that Title IV of the Act established a new program to control power-plant emissions of two "criteria pollutants"—sulfur dioxide and nitrogen oxide—that

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ample margin of safety. 42 U.S.C. 7412(f)(2). That "residual risk" review tracks the two-step process that was in place before the 1990 Amendments were enacted. See 42 U.S.C. 7412(f)(2)(B) (preserving EPA interpretation set forth in 54 Fed. Reg. 38,044 (Sept. 14, 1989)); *NRDC* v. *EPA*, 824 F.2d 1146, 1164-1166 (D.C. Cir. 1987) (en banc). Under that residual-risk review, EPA first evaluates health factors alone and determines the "safe[]" level of risk. 42 U.S.C. 7412(f)(2)(A). EPA then determines whether more stringent standards are necessary to protect public health with an "ample margin of safety," taking into account costs and other relevant factors. *Ibid.*

contribute to the phenomenon of acid rain. 42 U.S.C. 7408(f)(1)(A); see 42 U.S.C. 7651-7651f. Congress understood that the controls used to meet the new acid-rain requirements and other requirements of the Act could have the ancillary benefit of reducing hazardous-air-pollutant emissions from power plants. See Staff of the Senate Comm. on Environment and Public Works, 103d Cong., 1st Sess., 1 *A Legislative History of the Clean Air Act Amendments of 1990* 1416 (Comm. Print 1993) (*1990 CAA Legislative History*); Nat'l Mining Ass'n (NMA) Br. 5-8; Util. Air Regulatory Grp. (UARG) Br. 9-10. Because the hazardous-air-pollutant reductions associated with implementation of the other CAA programs were not yet known, Congress concluded that EPA should study the risks remaining after implementation of those programs before deciding whether to list power plants for regulation under the NESHAP program. See 42 U.S.C. 7412(n)(1)(A).

2. a. After the 1990 Amendments became law, EPA listed, and promulgated Section 7412 emission standards for, scores of source categories, covering virtually the full range of American industry. See 40 C.F.R. Pt. 63. In 1998, EPA completed the statutorily-required study of the health effects of power-plant emissions. 65 Fed. Reg. 79,825-79,826 (Dec. 20, 2000).

In December 2000, EPA determined that regulation of coal- and oil-fired power plants under Section 7412 was "appropriate and necessary." 65 Fed. Reg. at 79,830. EPA therefore added such power plants to the list of source categories to be regulated under Section 7412. *Id.* at 79,831. EPA also determined that it was "not appropriate or necessary" to regulate

natural-gas-fired power plants, and it accordingly chose not to list those plants. *Ibid.*

As part of its 2000 determination, EPA found that coal- and oil-fired power plants are the largest source of domestic anthropogenic mercury emissions, and that "[m]ercury is highly toxic, persistent, and bioaccumulates in food chains." 65 Fed. Reg. at 79,827. EPA found that mercury emitted by power plants falls into water bodies and then becomes concentrated in the bodies of predatory fish, which absorb the methylmercury contained by their food sources. When humans eat those contaminated fish, they too are exposed. The methylmercury from the fish poses an especially great risk to children born to women exposed to high levels of methylmercury during pregnancy. *Ibid.* EPA explained that methylmercury "readily passes * * * to the fetus and fetal brain," and that children exposed to methylmercury during pregnancy have exhibited developmental neurological abnormalities and delays. *Id.* at 79,829. EPA estimated that approximately seven percent of American women of childbearing age—*i.e.*, millions of women—were being exposed to methylmercury in amounts that exceed a health-protective level. *Ibid.*

Although EPA's 2000 finding focused primarily on the hazards posed by mercury emissions, the agency also found that the cancer-related risks posed by other metals emitted by power plants presented a potential public-health concern, and that acid-gas and dioxin emissions likewise warranted further evaluation. 65 Fed. Reg. at 79,827. EPA also identified a number of available emission controls that are effective at reducing emissions of mercury and other hazardous air pollutants. *Id.* at 79,830.

b. As a result of the 2000 listing decision, EPA was required to promulgate Section 7412(d) emission standards for all hazardous air pollutants emitted by power plants within two years. See 42 U.S.C. 7412(c)(5) and (e). EPA did not meet that deadline. In 2005, EPA attempted to reverse the 2000 determination, to remove power plants from the Section 7412(c) list, and instead to regulate power-plant mercury emissions under the NSPS program, 42 U.S.C. 7411. 70 Fed. Reg. 16,004 (Mar. 29, 2005) (2005 Delisting Rule). In a related rulemaking, EPA promulgated Section 7411 standards of performance for mercury emissions. 70 Fed. Reg. 28,606 (May 18, 2005).

Numerous parties petitioned for judicial review of the 2005 Delisting Rule and the accompanying Section 7411 standards. The D.C. Circuit granted the petitions and vacated both rules. *New Jersey*, 517 F.3d at 583. The court held that the 2005 Delisting Rule "violated the [Act's] plain text" by failing to comply with the delisting requirements set forth in 42 U.S.C. 7412(c)(9). *New Jersey*, 517 F.3d at 582. The government filed, but later moved to dismiss, a petition for a writ of certiorari seeking review of the D.C. Circuit's decision. See *EPA* v. *New Jersey*, 555 U.S. 1162 (2009) (No. 08-512) (petition filed Oct. 17, 2008; mot. to dismiss filed Feb. 6, 2009). This Court dismissed the government's petition under Sup. Ct. R. 46, *New Jersey* 555 U.S. at 1162, and it denied an industry group's petition for a writ of certiorari, *Utility Air Regulatory Grp.* v. *New Jersey*, 555 U.S. 1169 (2009) (No. 08-352).

3. As a result of the D.C. Circuit's ruling, power plants remained on the Section 7412(c) list pursuant to EPA's 2000 listing decision. In 2011, EPA solicited

public comments on a proposed rule establishing emission standards for listed hazardous air pollutants emitted by such plants. 76 Fed. Reg. 24,976 (May 3, 2011) (2011 Proposed Rule). EPA proposed to reaffirm its 2000 "appropriate and necessary" determination and listing decision. *Id.* at 24,993-25,020. It also relied on robust new technical analyses confirming the health and environmental hazards posed by power-plant emissions of hazardous air pollutants. *Id.* at 24,986, 24,993-25,020.

The preamble to the 2011 Proposed Rule also set forth EPA's proposed interpretation of Section 7412(n)(1)(A)'s directive to regulate power plants "if [EPA] finds such regulation is appropriate and necessary." 76 Fed. Reg. at 24,986 (emphasis omitted); see *id.* at 24,986-24,993. EPA observed that Section 7412(n)(1)(A) "provides no clear standard to govern EPA's analysis," and that the broad phrase "appropriate and necessary" therefore "convey[s] considerable discretion to [EPA] in determining what is appropriate and necessary in a given context." *Id.* at 24,987.

EPA then proposed that it is "appropriate" to regulate power plants under Section 7412(n)(1)(A) if, at the time of the finding, (1) hazardous-air-pollutant emissions from those plants pose a hazard to either public health or the environment, and (2) controls are available to reduce such emissions. 76 Fed. Reg. at 24,988-24,989. EPA also stated that, although the term "appropriate" is ambiguous, it is best interpreted in the present statutory context not "[to] allow for the consideration of costs in assessing whether hazards to public health or the environment are reasonably anticipated to occur based on [power-plant] emissions." *Id.* at 24,989. EPA observed that its approach was "con-

sistent with the overall structure of the CAA," and that Congress had not allowed the agency to consider costs when listing any other source category for regulation or when evaluating whether any source category should be delisted. *Ibid.*

EPA further proposed that it may find regulation to be "appropriate" based "on a finding that any single [hazardous air pollutant] emitted from [power plants] poses a hazard to public health or the environment." 76 Fed. Reg. at 24,988. It noted that Section 7412 does not mandate distinct "appropriate and necessary" findings for each individual pollutant, and that EPA must promulgate standards for all hazardous air pollutants emitted by major-source categories subject to regulation. *Id.* at 24,989 (citing *National Lime Ass'n* v. *EPA*, 233 F.3d 625, 633 (D.C. Cir. 2000)). EPA also proposed that regulation of power plants is "necessary" under Section 7412(n)(1)(A) if public-health or environmental hazards posed by power-plant emissions will not be addressed through the implementation of other CAA requirements. *Id.* at 24,990-24,992.

4. In February 2012, EPA issued a final rule promulgating emission standards for power plants. 77 Fed. Reg. at 9304.

a. The preamble to the final rule set forth EPA's final interpretation of Section 7412(n)(1)(A)'s "appropriate and necessary" standard. 77 Fed. Reg. at 9320-9329. The preamble explained that costs do "not have to be read into the definition of 'appropriate,'" and that "it is reasonable to assess whether to list [power plants] * * * without considering costs." *Id.* at 9327.

b. The preamble also reaffirmed EPA's December 2000 "appropriate and necessary" finding and listing

decision, as well as the additional analyses of the health and environmental hazards posed by power-plant hazardous-air-pollutant emissions that the agency had discussed when it issued the 2011 Proposed Rule. 77 Fed. Reg. at 9310-9364. EPA ultimately found it "appropriate" to regulate coal- and oil-fired power plants under Section 7412 because, *inter alia*: (1) such plants remain by far the largest domestic source of mercury emissions and of many other listed hazardous air pollutants; (2) mercury and other emitted pollutants pose hazards to public health and the environment; and (3) effective controls remain available to reduce emissions. *Id.* at 9362-9363, 9366 (noting that various findings provided independent bases for regulation). EPA separately reaffirmed that it is "necessary" to regulate power-plant emissions because, *inter alia*, implementation of other CAA requirements would not eliminate the identified hazards to public health. *Id.* at 9363.

c. Pursuant to Section 7412(d), the 2012 Final Rule established emission standards for listed hazardous pollutants emitted by power plants. 77 Fed. Reg. at 9366-9376. EPA explained that those standards could be met—and, in fact, were in many cases *already* being met—by existing power plants using proven and available control technologies. *Id.* at 9307, 9366-9376. With respect to almost every pollutant, EPA set the emission standard at the least stringent "floor" level allowed by Congress. *Id.* at 9367 (Tbl. 3), 9369; see 42 U.S.C. 7412(d)(3)(B). EPA noted that those standards would dramatically reduce power-plant emissions of mercury and other pollutants. 77 Fed. Reg. at 9306, 9424-9425.

d. In accordance with Executive Orders 12,866 and 13,563, EPA also issued an RIA that estimated the costs and benefits of the new power-plant emission standards. 77 Fed. Reg. at 9305-9306, 9426-9432; 4 J.A. 904-956 (RIA excerpts). That analysis projected that the standards, once fully implemented in 2016, would yield annual monetized benefits of between $37 billion and $90 billion (measured in 2007 dollars), as compared to annual costs of $9.6 billion. 77 Fed. Reg. at 9305-9306.

The RIA explained that the rule would achieve significant reductions of emissions of mercury and other listed hazardous air pollutants, and that the technologies used to reduce those emissions would also have the significant ancillary benefit of reducing emissions of two criteria pollutants—particulate matter (specifically $PM_{2.5}$) and sulfur dioxide (a precursor to $PM_{2.5}$). 77 Fed. Reg. at 9305; 4 J.A. 954-955. Although those criteria pollutants are not listed as hazardous air pollutants, they are directly regulated by the final rule as surrogates for listed hazardous air pollutants. See 77 Fed. Reg. at 9305. EPA explained that the "great majority" of the quantifiable benefits identified in the RIA are "attributable to co-benefits from reductions in $PM_{2.5}$-related mortality." *Ibid.* Those quantifiable benefits include the prevention of up to 11,000 premature deaths each year. *Id.* at 9306, 9445; see *id.* at 9426-9432.

EPA made clear that the RIA played no role in its finding that regulating power plants was "appropriate and necessary" under Section 7412(n)(1)(A). See 77 Fed. Reg. at 9323. It also explained that only one of the direct health and environmental benefits from reducing emissions from hazardous air pollutants

could even be partially quantified. *Id.* at 9306, 9323, 9363, 9426-9432; see 4 J.A. 905, 918, 921-922, 940-953.[4] EPA ultimately concluded, however, that, "[u]pon considering these limitations and uncertainties, it remains clear that the benefits of this rule * * * are substantial and far outweigh the costs." 77 Fed. Reg. at 9306.

4. Petitioners filed consolidated petitions for judicial review of the 2012 Final Rule in the D.C. Circuit. Other power producers and other States intervened in support of the rule. As relevant here, petitioners argued that EPA must consider costs when determining whether regulation of power plants is "appropriate" under Section 7412(n)(1)(A). Pet. C.A. Br. 41; see Pet. App. 24a-25a. Petitioners also challenged numerous other aspects of the 2012 Final Rule, including EPA's factual findings with respect to the harmful effects of exposure to mercury, acid gases, and other pollutants. Pet. C.A. Br. 48-55.

a. The court of appeals upheld EPA's "appropriate and necessary" finding and its accompanying decision to list power plants. Pet. App. 16a-54a. The court explained that the Act "does not evince unambiguous congressional intent on the specific issue of whether

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[4] The RIA explained that there are "daunting" obstacles to successfully quantifying, in monetary terms, the direct public-health benefits from reducing emissions of hazardous air pollutants. 4 J.A. 951. Those obstacles include (1) gaps in toxicological data; (2) uncertainties in extrapolating results from high-dose animal experiments to estimate human effects at lower doses; (3) limited ambient and personal exposure monitoring data; (4) difficulties in tracking diseases, such as cancer, that have long latency periods; and (5) insufficient economic research to support the valuation of the health impacts often associated with exposure to individual air toxics. *Ibid.*

EPA was required to consider costs in making its 'appropriate and necessary' determination under [Section 7412(n)(1)(A)]." *Id.* at 25a. It found EPA's interpretation to be "clearly permissible" under *Chevron*, stating that the agency had "reasonably concluded it need not consider costs in making its 'appropriate and necessary' determination under [Section 7412(n)(1)(A)]." *Id.* at 25a, 33a.

The court of appeals relied in part on *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457 (2001), in which this Court highlighted its longstanding "refus[al] to find implicit in ambiguous sections of the [CAA] an authorization to consider costs that has elsewhere, and so often, been expressly granted." *Id.* at 467; see Pet. App. 25a-26a; see also *id.* at 31a n.2. The court of appeals also noted that Congress (1) has required EPA to regulate other sources of pollution without considering cost; (2) has not allowed EPA to consider costs when deciding whether to delist a source category under the NESHAP program; and (3) has required EPA to take account of costs when setting the *level* of regulation of power-plant hazardous-air-pollutant emissions. See *id.* at 27a-29a, 31a; see also 42 U.S.C. 7412(c) and (d)(2). The court unanimously rejected all other aspects of petitioners' challenges to the 2012 Final Rule. Pet. App. 16a-22a, 33a-54a.

b. Judge Kavanaugh concurred in part and dissented in part. Pet. App. 68a-98a. Judge Kavanaugh agreed with petitioners that, in order to determine whether it is "appropriate" to list power plants for regulation under the NESHAP program, EPA must consider the costs associated with such regulation. *Id.*

at 73a-84a. Judge Kavanaugh joined all other aspects of the panel's per curiam opinion.

SUMMARY OF ARGUMENT

EPA properly declined to consider costs in deciding that it was "appropriate and necessary" to list power plants for regulation under the NESHAP program. 42 U.S.C. 7412(n)(1)(A). With respect to all other source categories, the CAA unambiguously directs EPA to consider costs *only* in setting the proper *level* of regulation, not in making the threshold determination whether a particular source category should be listed. Petitioners have identified no textual or practical justification for requiring a different approach to the listing and subsequent regulation of power plants. Because EPA's interpretation comports with the Act's text, structure, and purposes, the court of appeals correctly upheld the agency's decision under *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837 (1984).

A. In the 1990 Amendments, Congress directed EPA to conduct a study of the health hazards posed by the emission of hazardous air pollutants from power plants. 42 U.S.C. 7412(n)(1)(A). It instructed EPA to regulate such emissions under Section 7412 if the agency concluded that doing so was "appropriate and necessary after considering the results of the study." *Ibid.* That open-ended phrasing gives EPA discretion to interpret Section 7412(n)(1)(A) in accordance with Section 7412's broader text, structure, and purposes.

B. EPA's approach to the listing of power plants for NESHAP regulation is consistent with the CAA provision that governs the listing of other stationary-source categories. See 42 U.S.C. 7412(c). That provision requires EPA to list sources based on either the

volume of their hazardous-air-pollutant emissions (major sources) or the risks posed by such emissions to health or the environment (area sources). Thus, with respect to all other stationary sources of hazardous air pollutants, EPA's decision whether to list a particular source category must be made without regard to cost. Petitioners rely heavily on Congress's enactment of a separate provision that is specific to the listing of power plants. See 42 U.S.C. 7412(n)(1)(A). But neither the text of that provision, nor Congress's reasons for enacting it, suggest that Congress wished to encourage (much less to require) EPA to consider costs in making the threshold listing decision.

The reasonableness of EPA's approach is reinforced by the statutory provision that governs EPA's delisting of previously listed source categories. See 42 U.S.C. 7412(c)(9). Under that provision, which applies equally to power plants and all other stationary sources, costs are irrelevant to EPA's determination whether a particular source category should be delisted. EPA reasonably concluded that, if costs are not relevant to the delisting decision, they should also be irrelevant when the agency decides whether to include power plants on the list in the first place.

Other textual and structural aspects of the CAA confirm the reasonableness of EPA's conclusion that costs are irrelevant to the listing determination. Although the Act directs EPA to take account of costs when making many other regulatory decisions, Section 7412(n)(1)(A) imposes no such requirement. Cf. *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457, 467-468, 471 (2001). EPA's interpretation of Section 7412(n)(1)(A) is also consistent with various

other CAA regulatory programs involving multistage decisionmaking in which (1) EPA makes a threshold decision to regulate based exclusively on health and environmental factors, and (2) EPA or the States then consider costs (among other relevant factors) in choosing the proper level of regulation. The CAA's repeated use of that approach refutes petitioners' contention that it is inherently irrational, and/or presumptively inconsistent with Congress's intent, to ignore costs in making the threshold decision whether to regulate.

C. Petitioners' contrary arguments lack merit. First, they emphasize the breadth of the term "appropriate," as well as the common sense point that it is often reasonable to consider costs in determining whether particular regulatory burdens should be imposed. But petitioners fail to acknowledge the basic congruence between EPA's approach to power-plant regulation under the NESHAP program—which treats costs as relevant only to the formulation of specific emission standards, not to the threshold listing decision—and the approach that Congress mandated for all other source categories. In attacking EPA's interpretation of Section 7412(n)(1)(A) as "utter[ly] irrational[]," NMA Br. 19, petitioners impugn the very cost-blind listing methodology that Congress unambiguously mandated for all other types of stationary sources.

Petitioners also lean heavily on mischaracterizations of relevant precedent. For example, they cite decisions like *Entergy Corp.* v. *Riverkeeper, Inc.*, 556 U.S. 208 (2009), to support their argument that EPA must consider costs when making regulatory decisions. In fact, those decisions show that statutory

silence with respect to costs is typically "meant to convey nothing more than a refusal to tie the agency's hands as to whether cost-benefit analysis should be used, and if so to what degree." *Id.* at 222. Petitioners also invoke the D.C. Circuit's decision in *NRDC* v. *EPA*, 824 F.2d 1146 (1987) (en banc). They fail, however, to acknowledge the court of appeals' statement in that case that EPA could reasonably have interpreted the statute at issue to prohibit the consideration of costs. See *id.* at 1165-1166 & n.11.

Petitioners' other arguments are equally unavailing. They highlight 42 U.S.C. 7412(n)(1)(B), which requires EPA to conduct a study of mercury emissions and the costs of reducing them. But Congress did not require EPA to consider the Section 7412(n)(1)(B) study when deciding whether to regulate power plants, and the study Congress *did* make relevant was not required to consider costs. See 42 U.S.C. 7412(n)(1)(A). Petitioners' proffered analogy between Section 7412(n)(1)(A) and Section 7412(f) likewise does not support their argument, since Section 7412(f)(2) forbids EPA from considering costs when making the threshold determination whether additional regulation is warranted.

D. Petitioners rely heavily on EPA's analysis of the costs and benefits of the 2012 Final Rule. But the RIA simply confirms that EPA's ultimate decision to regulate power plants would be reasonable even if the agency were required to take costs into account using a cost-benefit test. The RIA reflects EPA's judgment that the rule's quantifiable benefits will exceed its costs by between $27 billion and $80 billion each year. 77 Fed. Reg. at 9305-9306. In attacking that conclusion, petitioners argue that EPA must both (1) consid-

er all of the costs that NESHAP regulation of power plants entails and (2) ignore most of the rule's benefits. That result-oriented theory is inconsistent with the basic logic of petitioners' principal statutory argument, and it defies common sense.

ARGUMENT

EPA REASONABLY DECLINED TO CONSIDER COSTS WHEN LISTING POWER PLANTS FOR REGULATION UNDER SECTION 7412

Under *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837 (1984), this Court must uphold EPA's interpretation of Section 7412(n)(1)(A) unless that provision unambiguously requires the agency to consider costs when deciding whether it is "appropriate" to regulate power plants under the NESHAP program. See *id.* at 842-844; see also *EPA* v. *EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1603 (2014) (noting that the Court "routinely accord[s] dispositive effect to an agency's reasonable interpretation of ambiguous statutory language"). The text, structure, context, and history of Section 7412(n)(1)(A) support EPA's decision to consider costs only in setting the proper *level* of NESHAP regulation, not in making the threshold listing determination.

A. Under Section 7412(n)(1)(A), EPA Has Substantial Discretion To Determine Whether It Is "Appropriate" To List Power Plants As A Source Category Subject To NESHAP Regulation

Section 7412(n)(1)(A) requires EPA to "perform a study of the hazards to public health" that are "reasonably anticipated to occur" as a result of power-plant hazardous-air-pollutant emissions after imposition of other CAA requirements. The provision fur-

ther directs the agency to regulate power plants if it "finds such regulation is *appropriate* and necessary after considering the results of the study." 42 U.S.C. 7412(n)(1)(A) (emphasis added). The central issue in this case concerns the meaning of the word "appropriate" in that provision.

Standard dictionaries define "appropriate" in broad terms, to mean "specially suitable," "fit," or "proper," *Webster's Third New International Dictionary* 106 (1993) (capitalization omitted), or "suitable or proper in the circumstances," *The New Oxford American Dictionary* 76 (2d ed. 2005). As those definitions make clear, the application of any "appropriate[ness]" requirement depends on the particular context in which the term appears. This Court has likewise recognized that "the word 'appropriate' is inherently context-dependent," holding that the phrase "[a]ppropriate relief" in 42 U.S.C. 2000cc-2(a) is "open-ended and ambiguous about what types of relief it includes." *Sossamon* v. *Texas*, 131 S. Ct. 1651, 1659 (2011); see *West* v. *Gibson*, 527 U.S. 212, 217-218 (1999) (holding that the term "appropriate" is flexible and depends on statutory context).

Section 7412(n)(1)(A) does not explicitly address whether EPA must or should consider costs in deciding whether it is "appropriate" to regulate power plants under the NESHAP program. Neither the broad statutory term "appropriate," nor Congress's failure expressly to forbid consideration of costs, suggests that costs must be considered. This Court has never held that statutory silence is a basis for *requiring* agencies to consider costs. Rather, the determination whether costs are germane to a particular agency decision ultimately depends on the details of

the particular statutory scheme at issue and the agency's views of how to resolve any ambiguity.[5]

Under *Chevron*, agencies have discretion to interpret open-ended and ambiguous statutory terms, and courts must give those interpretations dispositive effect so long as they are reasonable. 467 U.S. at 842-844; *EME Homer City*, 134 S. Ct. at 1603. By declining to set forth an exclusive list of factors relevant to the decision whether to list power plants as a NESHAP source category, Congress implicitly authorized EPA to determine the "appropriate[ness]" of such listing in light of the CAA's text, structure, history, and purposes. As explained below and by the court of appeals, EPA properly exercised that interpretive authority here.

B. The Text, Structure, And History Of The CAA Establish That EPA's Interpretation Of Section 7412(n)(1)(A) Is Reasonable

A "fundamental canon of statutory construction" is that "the words of a statute must be read in their context and with a view to their place in the overall statutory scheme." *FDA* v. *Brown & Williamson*

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[5] See *Entergy Corp.* v. *Riverkeeper, Inc.*, 556 U.S. 208, 223 (2009) ("[S]ometimes statutory silence, when viewed in context, is best interpreted as limiting agency discretion."); see also, *e.g.*, *EME Homer City*, 134 S. Ct. at 1603, 1606-1607 (permitting EPA to consider costs when allocating emission contributions among upwind States under 42 U.S.C. 7410(a)(2)(D)(i)); *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457, 467-468, 471 (2001) (holding that EPA may not consider costs when setting NAAQS); *American Textile Mfrs. Inst., Inc.* v. *Donovan*, 452 U.S. 490, 510-512 (1981) (holding that the Department of Labor was not required to engage in cost-benefit analysis in absence of statutory command).

Tobacco Corp., 529 U.S. 120, 133 (2000) (citation omitted). Consistent with that interpretive canon, EPA construed Section 7412(n)(1)(A) in a way that best harmonizes regulation of power-plant emissions with the rules that govern other source categories. The court of appeals correctly upheld EPA's interpretation as "clearly permissible." Pet. App. 25a; see *id.* at 18a, 32a-33a.

1. EPA's interpretation of Section 7412(n)(1)(A) is consistent with the criteria for listing all other sources of hazardous air pollutants under Section 7412

Section 7412 requires EPA to make two basic determinations when regulating stationary sources of hazardous air pollutants. First, EPA must decide whether any particular source category should appear on the list of categories subject to regulation. 42 U.S.C. 7412(c). Second, the agency must promulgate emission standards for any categories appearing on that list. 42 U.S.C. 7412(d). With respect to all source categories *other than* power plants, the expected costs are relevant to EPA's choice of specific emission standards, but not to the threshold listing decision. EPA acted reasonably in applying the same approach to NESHAP regulation of power-plant emissions.

a. Section 7412(c) generally precludes EPA from considering costs when deciding whether to list particular source categories for NESHAP regulation. Section 7412(c) requires the agency to list and regulate (1) all "major" sources of pollution, defined as those sources emitting more than ten tons of a single hazardous air pollutant (or 25 tons of any combination of such pollutants) per year, 42 U.S.C. 7412(a)(1) and

(c)(1); and (2) any "area" sources of pollution that EPA determines present "a threat of adverse effects to human health or the environment," 42 U.S.C. 7412(c)(1) and (3). Those statutory directives do not authorize EPA to consider the costs associated with regulating either type of source when making the initial listing decision. Rather, they reflect Congress's determinations that major sources pose an inherent risk warranting regulation; that area sources should be listed based on EPA's judgment of the threat posed by their emissions; and that the risk alone is a sufficient justification for listing under the NESHAP program.

The CAA directs EPA to consider the anticipated costs only in devising the specific emission standard that will apply to sources within a listed category. Each major source emission standard must "require the maximum degree of reduction in emissions" that EPA "determines is achievable" for sources within the relevant category. 42 U.S.C. 7412(d)(2). For existing sources, the Act requires EPA to promulgate standards at least as stringent as a statutorily-defined "floor," defined by reference to the emission reductions actually achieved by the best-performing sources within the category. 42 U.S.C. 7412(d)(3); see pp. 5-6, *supra*. That requirement reflects an apparent congressional judgment that, if a particular level of emission reduction has actually been accomplished by a significant percentage of comparable sources, it is *ipso facto* "achievable."

In identifying the minimum level of stringency that the statute requires, EPA does not explicitly consider costs. But the method by which the floor is calculated ensures that the minimum standard is "achievable" in

the sense of economically feasible for at least a significant number of sources. See Pet. App. 27a, 29a-30a; cf. 1989 Senate Report 168-169 (noting that "[c]ost considerations are reflected in the selection of emissions limitations which have been achieved in practice"). The possibility remains, however, that particular sources may find achievement of the minimum standards prohibitively expensive; and the Act does not allow EPA to treat that possibility as a ground for promulgating emission standards less stringent than the statutory floor. EPA must explicitly consider costs (along with other factors) when it decides whether to impose emission standards that are more stringent than the minimum level required by Section 7412(d)(3).

b. EPA's interpretation of Section 7412(n)(1)(A) renders Section 7412 a "symmetrical and coherent regulatory scheme," *Brown & Williamson*, 529 U.S. at 133, under which anticipated costs are considered at the same stage of the regulatory process for power plants as for other stationary sources. For stationary sources other than power plants, EPA's NESHAP listing decision turns either on an explicit agency finding of potential harm (for area sources) or on sources' emission of hazardous air pollutants in quantities above a statutory threshold (for major sources). The agency reasonably construed the Section 7412(n)(1)(A) term "appropriate" to turn on a comparable harm-based inquiry. Although the specific triggers for regulation differ slightly depending on whether the source at issue is a major source, area source, or power plant, see pp. 5, 24-25, *supra*, the basic criteria shaping EPA's threshold decision to regulate focus on the potential for harm and exclude consideration of

cost. EPA's interpretation likewise ensures that, when costs *are* taken into account in fashioning specific emission standards, they are considered in the same manner for power plants as for other stationary sources.

c. EPA's decision to harmonize the treatment of power plants and other stationary sources with respect to costs is plainly reasonable. Although Congress enacted a special listing provision that applies only to power plants, neither the text of Section 7412(n)(1)(A) nor Congress's reasons for enacting it suggest that EPA must consider costs when making the threshold listing determination. Rather, Congress established the special requirements of Section 7412(n)(1)(A) to reflect the unique—and at that point still undetermined—impact that the Title IV acid-rain program and other CAA requirements would have on power-plant emissions of hazardous air pollutants. See pp. 7-8, *supra*.

The text of Section 7412(n)(1)(A) supports that interpretation. Section 7412(n)(1)(A) departs from the scheme governing other source categories only by requiring EPA (1) to conduct a study "of the hazards to public health reasonably anticipated to occur as a result of emissions by [power plants] of pollutants listed under [Section 7412(b)] *after imposition of the requirements of th[e] [CAA]*"; and (2) to regulate power plants "under this section, if [EPA] finds such regulation is appropriate and necessary *after considering the results of the study*." 42 U.S.C. 7412(n)(1)(A) (emphases added).

Section 7412(n)(1)(A) thus requires EPA to conduct a new study of the risks created by power-plant emissions of hazardous air pollutants, and to consider that

study in making its listing decision, rather than simply basing the decision on whatever information was already available.[6] Section 7412(n)(1)(A) further provides that, in assessing such risks, the study should take into account any emission reductions that other CAA provisions could reasonably be anticipated to produce. The 1990 Amendments thus imposed a degree of structure on the agency's assessment of potential harms. None of those requirements suggests, however, that Congress intended the agency to depart from the basic harm-based approach to listing decisions that the Act mandates with respect to all other source categories.[7]

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[6] The State petitioners (Br. 33-34) argue that the Section 7412(n)(1)(A) study requires EPA to consider costs insofar as it directs the agency to address "alternative control strategies for emissions which may warrant regulation." That is not correct. Section 7412(n)(1)(A) does not require the study to consider the costs of alternative control strategies, but merely to identify and describe available and effective control technologies. See 4 J.A. 850.

[7] The State petitioners argue (Br. 29-30) that the legislative history of Section 7412(n)(1)(A) evidences Congress's intent that EPA must consider costs when deciding whether regulation of power plants is "appropriate." But the only support they cite for that proposition is Representative Oxley's general statement that a purpose of that provision was to "avoid[] the imposition of excessive and unnecessary costs on residential, industrial, and commercial consumers of electricity." States Br. 30 (emphasis omitted) (quoting 1 *1990 CAA Legislative History* 1417); see Pet. App. 81a (Kavanaugh, J., concurring in part and dissenting in part) (relying on same statement). Representative Oxley's statement does not specifically indicate that EPA must consider costs when determining whether NESHAP regulation of power plants is "appropriate." See 1 *1990 CAA Legislative History* 1416-1417. Rather, it is consistent with the view that Section 7412(n)(1)(A) avoids unnecessary costs by allowing EPA to regulate power plants only after

d. Three other points deserve emphasis. First, petitioners make no effort to demonstrate that listing power plants for NESHAP regulation without consideration of costs creates a greater danger of overregulation, or is otherwise more objectionable from a policy standpoint, than a similar cost-blind listing decision for any other source category. Rather, petitioners suggest that a threshold decision to regulate without consideration of costs is an inherently unreasonable practice that Congress could not plausibly be thought to have countenanced. See, *e.g.*, States Br. 24 ("[W]hen deciding whether it is appropriate to impose regulation, a reasonable person would consider both the pros and cons—in other words, the benefits and costs—of regulation."). The dissenting judge below articulated the putatively applicable principle in similarly general terms, stating that, "as a matter of common sense, common parlance, and common practice, determining whether it is 'appropriate' to regulate requires consideration of costs." Pet. App. 74a (Kavanaugh, J., concurring in part and dissenting in part). That view is flatly inconsistent with the basic structure of the NESHAP program and its treatment of other source categories.

Second, Section 7412(n)(1)(A) does not authorize EPA to apply to power plants whatever specific emission standards the agency deems "appropriate and necessary." Rather, it authorizes EPA to determine

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conducting the required study and finding that power-plant emissions will continue to pose public-health hazards even after imposition of other CAA requirements. See Pet. App. 25a & n.1. In any event, "the views of a single legislator, even a bill's sponsor, are not controlling." *Mims* v. *Arrow Fin. Servs., LLC*, 132 S. Ct. 740, 752 (2012).

whether it is "appropriate and necessary" to regulate power plants "under this section," *i.e.*, under Section 7412. 42 U.S.C. 7412(n)(1)(A). As the court below unanimously recognized, once EPA decided that power plants should be listed for regulation as a NESHAP source category, the agency was required to devise emission standards in accordance with the generally-applicable methodology, see 42 U.S.C. 7412(d), that governs other listed source categories, see Pet. App. 36a-38a. That fact reinforces the propriety of EPA's decision to apply listing criteria that preserve the integrity of the overall statutory scheme.[8]

Third (and more generally), when Congress enacts a comprehensive regulatory scheme, and directs an agency to devise an "appropriate" response to some interstitial problem, the agency would not be expected

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[8] Notably, Section 7412 contemplates a two-step process in which EPA first places power plants on the list of source categories established by Section 7412(c), and then promulgates specific standards for hazardous air pollutants emitted by such plants in accordance with Section 7412(d). See Pet. App. 36a-38a. Congress thus plainly envisioned that EPA would set the standards (at the second step) well *after* making the threshold listing determination (at the first step). See 42 U.S.C. 7412(e)(3) and (4). But Congress would not have expected EPA to consider—at the listing stage—the cost of complying with emission standards that had not yet been formulated. Here, of course, the idiosyncratic procedural history resulted in EPA making its initial "appropriate and necessary" finding in 2000, and then reaffirming that finding in 2012 at the same time that it promulgated power-plant emission standards. But there is no reason to believe that when Congress enacted the 1990 Amendments, it expected EPA to consider the threshold listing determination twice. EPA's view that Section 7412(n)(1)(A) does not require consideration of costs as the threshold listing stage is consistent with Congress's understanding of how the statutory scheme would operate.

to approach the matter as though it were writing on a blank slate. Nor would it be usual for the agency to base its interstitial decision on the perceived unwisdom of general congressional policy choices reflected in the statute. Rather, the agency would be expected to make interstitial choices that are logically consistent with, and promote the effective implementation of, the larger congressional design. In making the listing decision at issue here, it therefore would have been inappropriate for EPA either to ignore or to second-guess Congress's determination that consideration of costs under the NESHAP program should be deferred until the emission-standard-setting stage. EPA articulated a fully adequate rationale for its listing decision by explaining that (1) Congress's general approach of deferring cost consideration in that manner is an integral feature of the statutory scheme, and (2) no sound textual or practical reason had been identified to treat power plants differently.

e. In determining whether costs are relevant to the listing decision for power plants under Section 7412(n)(1)(A), EPA thus faced a simple choice. The agency could either interpret that provision to *harmonize with* the criteria that govern analogous NESHAP listing determinations for other stationary sources, or it could conclude that Congress intended to *depart from* those criteria—without saying so explicitly, and despite the fact that doing so could potentially leave a major source of hazardous air pollution outside the NESHAP program. EPA's choice of the former approach reflects the more natural reading of the statutory text, and it advances the CAA's core goal of "protect[ing] and enhanc[ing] the quality of the Nation's air resources so as to promote the public

health and welfare." 42 U.S.C. 7401(b)(1). In any event, it is farfetched to suppose that, by directing EPA to determine whether NESHAP regulation of power plants is "appropriate," Congress *required* the agency to use listing criteria fundamentally different from those that Congress had mandated for all other stationary-source categories. See pp. 40-45, *infra*.

2. EPA's interpretation is consistent with the NESHAP delisting criteria that apply to power plants and all other stationary sources

EPA's interpretation of Section 7412(n)(1)(A) is also consistent with 42 U.S.C. 7412(c)(9)(B), which empowers EPA to *delist* power plants and other stationary sources in specified circumstances. That provision makes clear that Congress intended such sources to remain subject to regulation under Section 7412 so long as they continue to pose dangers to public health or the environment, regardless of the costs of complying with such regulation. Section 7412(c)(9) illuminates Congress's understanding of when regulation of power plants is appropriate, and EPA reasonably relied on that provision when interpreting Section 7412(n)(1)(A). See Pet. App. 31a.

a. Section 7412(c)(9)(B) sets forth criteria under which EPA may remove "*any* source category"—including power plants—from the list of categories subject to regulation. See *New Jersey* v. *EPA*, 517 F.3d 574, 582 (D.C. Cir. 2008), cert. dismissed, 555 U.S. 1162, and, cert. denied, 555 U.S. 1169 (2009). Like the provisions that establish the general criteria governing EPA's initial listing decisions, Section 7412(c)(9) does not authorize consideration of costs as a basis for delisting. 76 Fed. Reg. at 24,989. Rather, EPA is authorized to delete a source category from

the list in two limited situations, both of which relate exclusively to health and welfare considerations.

First, EPA may delist a source category if (1) the "sole reason" for initially including the category on the list was its emission of a "unique chemical substance," and (2) that substance is subsequently deleted from the separate list of hazardous air pollutants because EPA concludes that it will not cause adverse effects to human "health" or the "environment[]." 42 U.S.C. 7412(c)(9)(A) (cross-referencing 42 U.S.C. 7412(b)(3)(C) and (D)).

Second, EPA may delist a source category if two other conditions are both satisfied. To the extent that sources within the category emit pollutants that may cause cancer in humans, EPA must determine that

> no source in the category (or group of sources in the case of area sources) emits such hazardous air pollutants in quantities which may cause a lifetime risk of cancer greater than one in one million to the individual in the population who is most exposed to emissions of such pollutants.

42 U.S.C. 7412(c)(9)(B)(i). In addition, if sources within the category emit pollutants that result in adverse health effects other than cancer, or in adverse environmental effects, EPA must determine that "emissions from no source in the category or subcategory concerned (or group of sources in the case of area sources) exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from [such] emissions." 42 U.S.C. 7412(c)(9)(B)(ii).

b. EPA reasonably relied on Section 7412(c)(9)'s delisting criteria when declining to consider costs as part of the decision to add power plants to that list.

See 76 Fed. Reg. at 24,989; Pet. App. 31a. The decisions to list or delist a stationary source are two sides of the same coin: Both address the same fundamental issue of whether a source category will appear on the Section 7412 list and therefore be subject to regulation. EPA reasonably concluded that, since the CAA unambiguously precludes consideration of costs as a basis for delisting, Congress did not likely intend for costs to be considered at the initial listing stage either. A contrary approach would produce a strange and asymmetric scheme, under which EPA could consider expected costs at the outset in deciding whether power plants should be placed on the list, but could not revisit an initial listing decision if the costs of regulation change or turn out to be much higher than anticipated.

The delisting criteria also make clear that Congress intended the NESHAP program to protect those individuals most exposed and most sensitive to the harms caused by hazardous air pollutants. Section 7412(c)(9)(B)(i) forbids EPA to delist a source that may cause a lifetime risk of cancer "greater than one in one million *to the individual in the population who is most exposed to emissions of such pollutants.*" 42 U.S.C. 7412(c)(9)(B)(i) (emphasis added). That provision reflects Congress's intent to protect the most vulnerable members of the population, regardless of the costs. It thereby undermines petitioners' conclusory assertion (States Br. 24) that, for a regulation to be "reasonable" under the CAA, it must be based on an assessment of both costs and benefits.[9]

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[9] Other provisions of Section 7412 likewise evince Congress's concern for the most vulnerable. See 42 U.S.C. 7412(f)(2)(A) (requiring regulation to address cancer risks "to the individual

3. Congress's express references to costs in other CAA provisions support EPA's interpretation of Section 7412(n)(1)(A)

As explained above, Congress unambiguously required EPA to consider costs at the second stage of the regulatory process, when EPA calculates the proper *level* of regulation under Section 7412(d)(2). See p. 6, *supra*. Congress also directed EPA to consider costs when implementing dozens of other CAA provisions. [10] Those statutory directives support EPA's decision not to consider costs in determining whether power plants should be regulated under the NESHAP program. 42 U.S.C. 7412(n)(1)(A).

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most exposed to emissions from a source"), (n)(1)(C) (requiring study of health effects of mercury, with special focus on "consumption by sensitive populations").

[10] For other provisions in Section 7412 requiring EPA to consider costs, see 42 U.S.C. 7412(d)(2) (setting level of emission standards generally), (8)(A)(i), (B)(i) (same with respect to coke oven batteries), (f)(1)(B) (report to Congress on need for further legislation on air pollution), (2)(A) (establishing additional emission standards), (n)(1)(B) (study of mercury emissions) and (s)(2) (report to Congress on compliance with EPA standards under the CAA).

For provisions elsewhere in the CAA that require EPA to consider costs in various ways, see 42 U.S.C. 7403(e)(6), (g)(1), (i)(1), (3) and (j)(3)(B)(iii), 7404(a)(1), (2), (4) and (b)(1), 7408(b)(1), 7411(a)(1), (g)(4)(B), (h)(1), (2) and (j)(1)(A)(ii), 7419(b)(3) and (d)(2), 7425(b), 7429(a)(2), 7479(3), 7491(g)(1) and (2), 7509(d)(2), 7511b(e)(2)(B)(iv), (v), (f)(1)(A) and (B), 7521(a)(2), (3)(A)(i), (B)(i), (D), (b)(1)(C), (i)(2)(A)(i), (ii), (3)(A)(iii), (B)(iii), (C)(iii), (k) and (*l*)(2), 7545(c)(2)(B), (k)(1)(A), (3)(B)(i), (ii), (*o*)(2)(B)(ii)(V) and (4)(C), 7547(a)(3)-(5) and (b), 7554(a), (b)(2) and (3), 7571(b), 7586(a)(4), 7589(e)(2), 7590(a), 7612(a), (c) and (d)(1), 7617(c)(1), (4) and (g), 7628(a) and (b), 7651c(f)(2)(B), 7651f(b)(2).

a. In determining that costs were irrelevant to the decision whether to list power plants for NESHAP regulation, EPA principally relied on the fact that the CAA unambiguously precludes consideration of costs in making closely analogous decisions—*i.e.*, the decision whether to list *other* source categories, and the decision whether to delist a previously listed category—under the NESHAP program. EPA reasonably concluded that, if Congress had wanted the agency to apply fundamentally different criteria in deciding whether to list power plants, it would have explicitly mandated that approach. Petitioners suggest (*e.g.*, States Br. 23-24) that an express statutory reference to costs was unnecessary because Section 7412(n)(1)(A) requires EPA to determine whether listing of power plants is "appropriate," and consideration of costs is an inherent component of any "appropriate" decision to regulate. Section 7412(d)(2) and the other provisions cited above refute that line of argument by showing that, when Congress intended to require EPA to consider costs in implementing the NESHAP program, Congress expressed that intent in clear and specific ways.

b. This Court's decision in *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457 (2001), supports EPA's conclusion. There, the Court agreed with EPA that costs are irrelevant when establishing air quality standards under 42 U.S.C. 7409(b), as part of the NAAQS program. 531 U.S. at 467. The Court noted that Section 7409(b)(1) requires EPA to set standards under that program at the level "requisite to protect the public health," allowing an "adequate margin of safety." *Id.* at 465 (citation omitted). The Court contrasted that language with various other CAA provi-

sions that specifically directed EPA to consider costs. *Id.* at 467-468 (citing *General Motors Corp.* v. *United States*, 496 U.S. 530, 538, 541 (1990); *Union Elec. Co.* v. *EPA*, 427 U.S. 246, 257 & n.5 (1976)).

In agreeing with EPA that costs are irrelevant when setting NAAQS, the Court made two points that are directly relevant here. First, the Court emphasized its refusal "to find implicit in ambiguous sections of the CAA an authorization to consider costs that has elsewhere, and so often, been expressly granted." *American Trucking*, 531 U.S. at 467-468. Second, the Court emphasized that Congress's silence with respect to costs was especially telling in light of Section 7409(b)(1)'s express emphasis on *health* hazards. The Court explained that, even if EPA may consider factors other than health when setting NAAQS, the agency may not consider costs. *Id.* at 469. It noted that cost "is *both* so indirectly related to public health *and* so full of potential for canceling the conclusions drawn from direct health effects that it would surely have been expressly mentioned * * * had Congress meant it to be considered." *Ibid.*

Both of those observations support EPA's decision here. Congress's failure to direct EPA to consider costs in Section 7412(n)(1)(A) is especially significant in light of the CAA's numerous express references to costs. And costs are far removed both from the criteria that EPA considers in determining whether other source categories should be listed, and from the only criterion (potential "hazards to public health") that Section 7412(n)(1)(A) specifically directs the agency to consider in deciding whether to list power plants. In these circumstances, EPA reasonably relied on *American Trucking* in concluding that Congress did not

intend the agency to consider costs under Section 7412(n)(1)(A).

4. EPA's approach to power-plant regulation under the NESHAP program is consistent with the structure of the CAA's other multistage regulatory programs

In addition to Section 7412 (see pp. 4-6, *supra*), the CAA establishes several other regulatory programs involving multistage decisionmaking in which EPA (1) makes a threshold decision to regulate based exclusively on health and environmental factors, and (2) considers costs (among other relevant factors) when choosing the proper level of regulation. EPA reasonably construed Section 7412(n)(1)(A) to establish that same approach here.

The NAAQS program for controlling criteria pollutants involves a multistage process in which EPA does not consider costs for purposes of two key threshold decisions. Under that program, EPA first decides whether emissions of a criteria pollutant "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7408(a). If EPA makes such an endangerment finding, it must establish NAAQS for that pollutant which are "requisite to protect the public health and * * * welfare," again without any consideration of potential regulatory costs. 42 U.S.C. 7409; *American Trucking*, 531 U.S. at 471 n.3. States may consider costs, however, when they later craft plans containing actual controls to achieve the air quality standards. 42 U.S.C. 7407(a), 7410; *American Trucking*, 531 U.S. at 470.

The NSPS program for stationary sources establishes a multistage process that is even more closely analogous to the NESHAP program at issue here.

Under the NSPS program, EPA must first publish a list of categories of stationary sources that "cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare," without any consideration of costs. 42 U.S.C. 7411(b)(1)(A). If EPA concludes that emissions from a particular source category are dangerous, that finding triggers a nondiscretionary duty to promulgate emission standards for new sources within the category, applying the "best system of emission reduction." 42 U.S.C. 7411(a)(1); see 42 U.S.C. 7411(b)(1)(B). The statute directs EPA to "tak[e] into account the cost of achieving such reduction" when identifying that "best system." 42 U.S.C. 7411(a)(1).

Similarly, the Motor Vehicle Emission and Fuel Standards program requires EPA first to determine, without considering potential costs, whether certain motor-vehicle emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). If EPA concludes that such dangers exist, it must promulgate standards for emissions from that class of engines, and it may consider costs when fashioning those standards. 42 U.S.C. 7521(a)(2); see *Massachusetts v. EPA*, 549 U.S. 497, 533 (2007).

Those programs reflect Congress's view that channeling cost considerations to the later stage of a multistage regulatory process is a sensible way to achieve the CAA's purposes. Prominent academic commentators agree that agencies act reasonably when they take account of costs in accordance with a multistage process. See, *e.g.*, Cass R. Sunstein, *Cost-Benefit Default Principles*, 99 Mich. L. Rev. 1651, 1695-1696 (2001). EPA permissibly construed Section

7412(n)(1)(A) to mandate the same regulatory approach that Congress repeatedly embraced throughout the CAA.

C. Petitioners' Arguments Fail To Establish That Section 7412(n)(1)(A) Unambiguously Requires EPA To Consider Costs

Under *Chevron*, petitioners can prevail only by showing that EPA's interpretation of the statute is unreasonable. Petitioners thus must establish that Section 7412(n)(1)(A) *unambiguously* compels EPA to consider costs when determining whether NESHAP regulation of power plants is "appropriate." Petitioners have not satisfied that standard.

1. The word "appropriate" does not unambiguously require EPA to consider costs when deciding whether to regulate

Petitioners argue (NMA Br. 18-23; UARG Br. 25-36) that Section 7412(n)(1)(A)'s use of a facially broad term ("appropriate"), coupled with statutory silence with respect to costs, necessarily requires EPA to consider costs when deciding whether to list power plants for regulation. They also assert (States Br. 33-37) that EPA's interpretation renders that term superfluous. Neither contention has merit.

a. Petitioners argue that Congress's use of the word "appropriate" to guide a regulatory decision necessarily requires agencies to consider costs when making that decision. See, *e.g.*, NMA Br. 19-23; States Br. 23-24; UARG Br. 25-29, 36-40. Petitioners assert that, under the ordinary meaning of the term "appropriate," EPA must take into account the surrounding "circumstances" in order to determine whether regulation is "suitable or proper." States Br.

23 (emphasis omitted); UARG Br. 25 (both quoting *The New Oxford American Dictionary* at 76). They further contend (States Br. 24) that, in light of the "common meaning" of "appropriate," it is clear that (1) "Congress wanted EPA to consider the circumstances that would normally inform the decision whether or not to regulate," and (2) "when deciding whether it is appropriate to impose regulation, a reasonable person would consider both the pros and cons—in other words, the benefits and costs—of regulation."

Petitioners are correct that "appropriateness" inquiries are "inherently context-dependent," *Sossamon*, 131 S. Ct. at 1659, and that particular conduct may be "appropriate" in some circumstances but inappropriate in others. But petitioners ignore the most salient contextual evidence of Congress's intent with respect to the specific question presented here. As explained above, the CAA *precludes* EPA from considering costs in deciding whether any other type of stationary source should be listed for NESHAP regulation. The Congress that enacted the 1990 Amendments presumably believed that the basic Section 7412 framework, under which costs are not considered in listing major or area sources, but are instead taken into account in determining the stringency of regulation, was an "appropriate" means of regulating those stationary sources. Congress's use of that term in Section 7412(n)(1)(A) therefore provides no colorable basis for inferring that Congress intended to preclude EPA from applying the same approach to power plants.

b. Other CAA provisions further undermine petitioners' contention that consideration of costs is an

essential prerequisite to an "appropriate" decision to regulate. At least 19 different CAA provisions authorize EPA to take some form of action based on its determination that doing so is "appropriate."[11] Under many of those provisions, costs are clearly irrelevant to the agency's analysis. For example, it is not plausible that Congress intended EPA to consider costs when deciding whether it is "appropriate" (1) to invite the participation of "the Under Secretary of Commerce for Oceans and Atmosphere, the Director of the Fish and Wildlife Service, [or] the Secretary of Agriculture" when conducting a study of pollution damage to ecosystems, 42 U.S.C. 7403(e); or (2) to receive assurances that a state or local air pollution control agency has provided for adequate representation of "international" interests in the air quality control region before providing a grant to the agency, 42 U.S.C. 7405(a)(2).

Similarly, when Congress instructed EPA to revise, "where appropriate," the list of hazardous air pollutants set forth in Section 7412(b), it plainly did not want the potential for high costs to bar the agency from adding pollutants that present "a threat of adverse human health effects * * * or adverse environmental effects." 42 U.S.C. 7412(b)(2). A neighboring provision states that EPA "shall" grant a petition to list a pollutant if the petitioner can show that the pollutant will cause "adverse effects to human health or adverse environmental effects." 42 U.S.C. 7412(b)(3)(B). The CAA thus treats costs as irrele-

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[11] See, *e.g.*, 42 U.S.C. 7403(e), 7405(a)(2) and (3), 7407(c), (d)(3)(A), (C) and (4)(A)(ii), 7409(d)(1), 7411(b)(1)(B), 7412(b)(2) and (c)(1), 7429(c)(1) and (2), 7502(a)(2) and (d), 7525(a)(1) and (4)(B), 7571(a)(3), 7601(d)(2).

vant to EPA's decision whether to list additional hazardous pollutants, despite Congress's use of the word "appropriate" in Section 7412(b)(2).[12]

c. Petitioners argue (*e.g.*, NMA Br. 19) that EPA's approach is irrational because it creates the theoretical possibility of power-plant regulation whose costs dramatically exceed its benefits.[13] Because EPA must consider costs before promulgating an emission standard that is more stringent than the statutory floor (see pp. 6, 25-26, *supra*), the agency's failure to consider costs at the listing stage could produce that outcome only if the floor standard itself entailed costs

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[12] Outside the CAA, a quick Westlaw search reveals literally hundreds of statutory provisions that condition agency action on a finding that the action is either "appropriate and necessary" or "necessary and appropriate." Interpreting such language to require agencies to consider costs in every such circumstance—regardless of context—would destabilize longstanding administrative practice and impose new and burdensome constraints on agency decisionmaking that Congress surely did not intend. Cf. *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519, 543-548 (1978) (forbidding courts from requiring agencies to follow procedures beyond those mandated by statute).

[13] The NMA's hypothetical bears no relation to this case, in which EPA concluded that the total quantifiable benefits of regulation outweigh the total costs by between $27 billion and $80 billion (measured in 2007 dollars) each year. 77 Fed. Reg. at 9305-9306; see pp. 14-15, *supra*. There is likewise no danger that the hypothetical might arise in the future, because EPA's decision to list power plants under Section 7412(n)(1)(A) was a one-time judgment that will never again be repeated. And while EPA may some day be asked to determine whether power plants should be delisted as a NESHAP source category, consideration of costs would play no role in that determination. See pp. 32-34, *supra*.

that greatly exceeded its benefits.[14] But to the extent there is a realistic danger that costs will exceed benefits, it exists equally with respect to all other categories of major sources, which are listed without regard to cost and (once listed) are subject to the same statutory floor. The premise underlying petitioners' argument—*i.e.*, that Congress could not have intended for EPA to list power plants based on criteria that create any risk that costs will exceed benefits—is thus directly at odds with the regime that Congress enacted for all other stationary sources.

If Congress had viewed the avoidance of such a result as a paramount objective, it could have declined to establish any minimally stringent emission standard (*i.e.*, floor), and instead could have granted EPA plenary authority to craft whatever emission standards the agency deemed appropriate, based on any and all relevant factors including costs. That approach would have eliminated any concern about NMA's hypothetical, and it would have eliminated any serious argument that EPA must consider costs when deciding whether to list power plants under Section 7412(n)(1)(A). But Congress did not take that approach.

Instead, Congress made the policy judgments that (1) all major stationary sources within each listed

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[14] Judge Kavanaugh's dissent specifically focused on that possibility, observing that, "once EPA determines that it is appropriate to regulate electric utilities under the [NESHAP] program, costs are not relevant at the *first*, 'setting the floor' stage of the [emission-standard-setting process]. And meeting that floor will be prohibitively expensive, particularly for many coal-fired electric utilities, regardless of whether EPA decides to go further and set a 'beyond-the-floor' standard." Pet. App. 79a.

category should be required to achieve "the maximum degree of reduction in emissions" that EPA determines to be "achievable," 42 U.S.C. 7412(d)(2); and (2) EPA's emission standards should "not be less stringent than" the emission limitation actually achieved by the best-performing sources, 42 U.S.C. 7412(d)(3). Congress evidently regarded category-wide achievement of the emission reductions already achieved by the best-performing sources as a more important policy objective than avoidance of any possibility that costs would exceed benefits. That congressional policy choice is an integral feature of the statutory design, not an obstacle to be circumvented. If Congress had viewed the hypothetical possibility of excessive costs as acceptable for other source categories, but unacceptable for power plants, it could have exempted power plants from the "floor" emission standards mandated by Section 7412(d). As explained above, however, the CAA makes clear that, if EPA lists power plants for NESHAP regulation pursuant to Section 7412(n)(1)(A), those facilities will be subject to the same standard-setting provisions that govern stationary sources within all other listed categories. See pp. 29-30, *supra*.

d. The State petitioners assert (Br. 22-23, 33-37) that EPA's interpretation of "appropriate" fails to give that term any independent meaning. That is incorrect. Under EPA's interpretation, it is "appropriate" to regulate power plants under Section 7412(n)(1)(A) if, at the time the finding is made, (1) hazardous-air-pollutant emissions from those plants pose a hazard to either public health or the environment; and (2) controls are available to reduce such emissions. 76 Fed. Reg. at 24,988-24,989. Both

of those requirements give meaningful content to the statutory text.

First, as the court of appeals recognized, EPA's interpretation ensures that the agency will not only *conduct* the study mandated by Section 7412(n)(1)(A), but also "apply its judgment in evaluating the results of th[at] study" to determine whether health or environmental hazards exist. Pet. App. 28a. At the time Congress enacted Section 7412(n)(1)(A), it was unclear whether EPA would ultimately conclude that power-plant emissions can reasonably be anticipated to cause hazards to public health.[15] EPA's interpretation of the term "appropriate" ensures that the agency exercises judgment in assessing those hazards.[16]

Second, as the court of appeals also explained, EPA "did *not* focus exclusively on health hazards in considering whether regulation would be 'appropriate,'" but also considered "the availability of controls to address [hazardous-air-pollutant] emissions from [power plants]." Pet. App. 28a (quoting 76 Fed. Reg. at 24,989; citing 77 Fed. Reg. at 9311). Although the State petitioners assert (Br. 36) that the availability of controls was "immaterial" to EPA's final determination to regulate power plants, they ignore EPA's unambiguous statement to the contrary in the preamble

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[15] Indeed, EPA eventually found that it was *not* "appropriate or necessary" to regulate emissions from natural-gas-fired plants because of the "negligible" dangers posed by such emissions. 65 Fed. Reg. at 79,831. And petitioners themselves disputed below that any such health or environment hazards exist with respect to power-plant emissions. See Pet. App. 40a-42a, 48a.

[16] Contrary to the State petitioners' contention (Br. 34-35), EPA evaluated the "severity" of anticipated health effects as part of its hazard analysis. See, *e.g.*, 76 Fed. Reg. at 24,992; 65 Fed. Reg. at 79,830-79,831; see also, *e.g.*, Pet. App. 40a-42a.

to the 2012 Final Rule. See 77 Fed. Reg. at 9363 ("The availability of controls to reduce [hazardous-air-pollutant] emissions from [power plants] only further supports the appropriate finding.").

Finally, the State petitioners are wrong in contending (Br. 34-36) that EPA's interpretation of "appropriate" entirely overlaps with its interpretation of "necessary." Although both terms require an inquiry into the health dangers posed by power-plant emissions, the "appropriate" prong of the inquiry considers those dangers as they exist "at the time" the finding is made, whereas the "necessary" prong considers how those dangers will be affected by the imposition of the Title IV acid-rain program and other CAA requirements. 76 Fed. Reg. at 24,988; see *id.* at 24,990, 24,992. And, unlike the "appropriate" prong, the "necessary" prong does not involve any analysis of the availability of controls to address power-plant emissions. See 77 Fed. Reg. at 9310-9311; 76 Fed. Reg. at 24,989-24,990.

2. Section 7412(n)(1)(B)'s express reference to costs does not support petitioners' interpretation of Section 7412(n)(1)(A)

Congress instructed EPA, in making its power-plant listing determination, to consider the study of potential public-health hazards that was mandated by Section 7412(n)(1)(A). Separately, in Section 7412(n)(1)(B), Congress also required EPA to conduct a different study into various issues relating specifically to mercury emissions from power plants and other sources, including "the costs of * * * technologies" that might be used to control such emissions. 42 U.S.C. 7412(n)(1)(B). The State petitioners argue (Br. 24, 42-43) that this latter requirement "confirms"

Congress's expectation that EPA would consider costs when determining whether regulation is "appropriate" under Section 7412(n)(1)(A). Petitioners are mistaken.

By its terms, Section 7412(n)(1)(A) required EPA to consider the study mandated by *that* provision, not the separate study referenced in Section 7412(n)(1)(B), when making the listing determination. The State petitioners imply (Br. 24-25) that the Section 7412(n)(1)(B) study would be pointless if EPA treated costs as irrelevant to the power-plant listing decision. But the Section 7412(n)(1)(B) study was not limited to either power plants or costs. In any event, the study can still inform EPA's application of the NESHAP program to mercury emissions from power plants and other sources, because EPA recognizes (and the CAA clearly directs) that cost *is* relevant at the second stage of the regulatory process, when EPA sets the proper emission standard. See p. 6, *supra*.

3. Neither this Court's precedents nor the D.C. Circuit's NRDC *decision supports petitioners' theory that silence necessarily requires agencies to consider costs*

Petitioners cite various decisions of this Court and the D.C. Circuit to support their argument that Section 7412(n)(1)(A)'s silence with respect to costs unambiguously requires EPA to consider such costs in deciding whether to list power plants for NESHAP regulation. Petitioners' reliance on those decisions is misplaced.

a. In arguing that EPA must consider costs when deciding whether to impose regulation, petitioners invoke *EME Homer City* and *Entergy Corp.* v. *Riverkeeper, Inc.*, 556 U.S. 208 (2009). NMA Br. 37; States

Br. 30-31; UARG Br. 31, 37. In both of those cases, however, the Court simply upheld EPA's conclusion that the particular statutory provisions at issue *allowed* the agency to consider costs. See *EME Homer City*, 134 S. Ct. at 1607 (holding that EPA could choose to consider costs when allocating responsibility for cross-state air pollution among contributing States); *Entergy*, 556 U.S. at 217-226 (holding that EPA could choose to utilize cost-benefit analysis in establishing regulation under the Clean Water Act). Neither case involved a situation where EPA had concluded that a statutory provision that was silent with respect to costs was best construed to *prohibit* consideration of costs. This Court's only precedent addressing that scenario is *American Trucking*, 531 U.S. at 467-471, in which the Court agreed with EPA that costs could not be considered under the relevant CAA provision.

Far from supporting the claim that statutory silence necessarily requires EPA to consider costs, the decisions on which petitioners rely stand for the very different proposition that silence counsels deference to the agency. In *Entergy*, the Court declared that the statutory "silence" in that case was "meant to convey nothing more than a refusal to tie the agency's hands as to whether cost-benefit analysis should be used, and if so to what degree." 556 U.S. at 222. And in *EME Homer City*, the Court noted that the statute was silent with respect to costs. 134 S. Ct. at 1604. The Court then identified several potential interpretations of the statute (some of which did *not* require consideration of costs) and held that "[u]nder *Chevron* we read Congress' silence as a delegation of authority to EPA to select from among reasonable options."

Ibid. The Court should apply similarly deferential review here.

b. The State petitioners also heavily rely (Br. 27-32) on the D.C. Circuit's unanimous decision in *NRDC* v. *EPA*, 824 F.2d 1146 (1987) (en banc). Petitioners read (States Br. 29) that decision to hold that "Congress would have to clearly express an intent * * * to *preclude* EPA from considering costs if it wanted that outcome." They argue (*id.* at 29-30) that Congress was presumably aware of *NRDC* when it enacted the 1990 Amendments, and that Section 7412(n)(1)(A)'s silence with respect to costs therefore "shows that Congress intended EPA to consider costs under [that provision] when deciding whether it is appropriate to regulate."

In *NRDC*, the court of appeals interpreted the pre-1990 version of Section 7412(b)(1)(B), which required EPA to set emission standards for hazardous air pollutants "at the level which in [EPA's] judgment provides an ample margin of safety to protect the public health." 42 U.S.C. 7412(b)(1)(B) (1982); see *NRDC*, 824 F.2d at 1147. The court first held that the statute required EPA to make an initial determination of what level of emissions is "safe," which the court described as the level necessary to achieve an "acceptable" risk to health. *Id.* at 1164-1165. The court emphasized that EPA "cannot under any circumstances consider cost and technological feasibility at this stage of the analysis." *Id.* at 1165.

The *NRDC* court then held that EPA could impose more stringent standards in order to provide an "ample margin" of safety, and that it could choose to consider costs and feasibility at this second stage of the analysis. 824 F.2d at 1165-1166. The court empha-

sized that its holding did not "bind [EPA] to any specific method of determining what is 'safe' or what constitutes an 'ample margin,'" and it acknowledged that EPA could adopt a different mode of analysis under which cost would *not* be considered. *Id.* at 1165-1166 & n.11.

The State petitioners misread *NRDC* in two significant ways. First, they ignore the D.C. Circuit's conclusion that costs are irrelevant to the agency's threshold determination of what level of emissions is "safe." *NRDC*, 824 F.2d at 1164-1165; see 1990 House Report 322. Second, they ignore the court's recognition that EPA could lawfully have interpreted the pre-1990 Section 7412(b) to prohibit the consideration of costs *altogether*, even when determining what constitutes an "ample margin" of safety. *NRDC*, 824 F.2d at 1165 n.11. Neither of those statements is compatible with petitioners' description of *NRDC* (States Br. 27, 29) as holding that EPA may ignore costs only if the relevant statute says so expressly. Cf. *American Trucking*, 531 U.S. at 467-469 (holding that statutory silence can bar EPA from considering costs).

4. Whether or not Section 7412(n)(1)(A) is a "residual risk" provision is irrelevant to whether EPA must consider costs

UARG asserts (Br. 30-35) that Section 7412(n)(1)(A) is a "residual risk" provision analogous to 42 U.S.C. 7412(f) and 7412(m). See note 3, *supra*. Those provisions address situations in which EPA must determine whether entities that are already regulated under Section 7412 should be subject to additional regulation in order to further protect public health or the environment. UARG reasons that, because EPA may consider costs in implementing those

other provisions, it must also consider costs under Section 7412(n)(1)(A).

That argument is a *non sequitur*. The fact that a particular CAA provision requires EPA to take account of existing regulatory requirements when deciding whether to impose further regulation has no bearing on whether or how the agency should consider costs in making that decision.

Indeed, the statutory analogue on which UARG primarily relies refutes its contention that any "residual risk" provision necessarily permits EPA to consider costs when deciding whether to impose further regulation. As UARG acknowledges (Br. 30), Section 7412(f) incorporates the same "ample margin of safety" standard that the D.C. Circuit considered in its 1987 *NRDC* decision. But that standard *prohibits* EPA from considering costs when determining the "safe" level of emissions at the first stage of the analysis. *NRDC*, 824 F.2d at 1164-1166; pp. 50-51, *supra*. EPA may consider such costs only when deciding whether to adopt a more stringent emission standard that provides an additional margin of safety. *Ibid.* Thus, to the extent that Section 7412(f) is relevant here at all, it supports EPA's conclusion that the costs associated with power-plant emission standards under the NESHAP program are properly considered only when the agency decides how stringent those standards will be, not when it decides whether power plants will be regulated under the program at all.

5. Petitioners' objections to other aspects of the 2012 Final Rule are outside the scope of the question presented

NMA and UARG both challenge (NMA Br. 42-44; UARG Br. 40-43) EPA's determination that, once it

decided to regulate power-plant emissions under Section 7412(n)(1)(A), it was required to set emission standards for *all* hazardous air pollutants. NMA also challenges (Br. 37-42) the factual basis of EPA's conclusion that acid-gas emissions from power plants pose hazards to public health and the environment. Those legal arguments are not fairly encompassed within the question on which this Court granted certiorari, and they should not be considered. In any event, both arguments lack merit and were correctly (and unanimously) rejected by the court of appeals. See Pet. App. 38a-44a; Gov't Br. in Opp. 29-32.

D. In The RIA That Accompanied The 2012 Final Rule, EPA Reasonably Concluded That The Benefits Associated With The Rule Will Greatly Exceed Its Costs

Throughout their briefs, petitioners repeatedly invoke the RIA in an effort to show that the 2012 Final Rule will impose costs that far exceed its benefits to society. Those arguments reflect a fundamental misunderstanding of the RIA. In fact, the RIA reflects EPA's considered judgment, based on the same sort of cost-benefit analysis that petitioners appear to embrace, that the benefits of the rule "are substantial and far outweigh the costs." 77 Fed. Reg. at 9306. Although EPA did not rely on the RIA when deciding to regulate power plants under Section 7412(n)(1)(A), the RIA further refutes petitioners' contention that EPA's refusal to consider costs at the listing stage led the agency to adopt irrational power-plant regulation.

1. For the reasons explained above, EPA reasonably declined to consider costs when deciding that regulation of power plants is "appropriate" under Section 7412(n)(1)(A). Even if EPA had considered costs, it would not necessarily have adopted either the

approach set forth in the RIA or a more rigid form of cost-benefit analysis that petitioners at times appear to advocate. This Court has recognized that there are a variety of different reasonable methods by which an agency may consider costs in making regulatory decisions.[17] The question presented in this case does not directly implicate the choice between potential methods of considering costs in circumstances where such consideration is required by statute or an agency deems it to be appropriate.

2. The RIA estimated that the 2012 Final Rule would produce annual quantifiable benefits of between $37 billion and $90 billion (measured in 2007 dollars), as compared to estimated annual costs of $9.6 billion.

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[17] In *Entergy*, for example, the Court identified at least three "plausible" ways in which EPA could consider costs when applying a "best technology available" standard within the Clean Water Act. 556 U.S. at 217-218. Those included (1) determining whether the standards' costs can be reasonably borne by the regulated industry; (2) identifying the technology that most efficiently produces some degree of environmental benefit; and (3) comparing the costs and benefits of various approaches. *Id.* at 218. In setting emission standards for hazardous air pollutants, EPA has often considered the cost-effectiveness of controls when determining whether to set standards at a level beyond the minimally stringent level required by 42 U.S.C. 7412(d)(3). See, *e.g.*, 79 Fed. Reg. 60,262-60,263, 60,272-60,273 (Oct. 6, 2014); 78 Fed. Reg. 10,020-10,021 (Feb. 12, 2013). Under that approach, EPA evaluates the costs per unit of pollutant emissions reduced or prevented and compares that to costs per unit incurred by other industries reducing the same pollutant. If Section 7412(n)(1)(A) were construed to require consideration of costs at the listing stage of EPA's regulatory process, the agency would have substantial discretion to determine *how* cost considerations should be taken into account. See, *e.g.*, Pet. App 77a (Kavanaugh, J., concurring in part and dissenting in part) (acknowledging agency discretion as to methodology).

77 Fed. Reg. at 9305-9306. As EPA explained, implementation of the emission standards included in the rule "is expected, based purely on economic efficiency criteria, to provide society with a significant net gain in social welfare, even given the limited set of health and environmental effects we were able to quantify." EPA, *Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards* 8-1 (2011). Thus, even if Section 7412(n)(1)(A) required EPA to consider costs in deciding whether to list power plants for NESHAP regulation, the analysis contained in the RIA would have provided a fully sufficient basis for concluding that such regulation was "appropriate."

3. Petitioners describe (NMA Br. 1, 18-19; States Br. 4, 32, 46-47; UARG Br. 3, 23, 42-43) the RIA as demonstrating that the costs of regulating power plants substantially outweigh the benefits. Petitioners focus narrowly on the quantifiable benefits directly associated with the rule's reduction of Section 7412(b) pollutants, which the RIA estimates at $4 million to $6 million each year. As EPA explained, however, "these calculated benefits are a small subset of the benefits of reducing [mercury] emissions" under the 2012 Final Rule. 77 Fed. Reg. at 9428; see pp. 14-15, *supra* (noting RIA's conclusion that virtually all of the direct benefits from reducing emissions of hazardous air pollutants are unquantifiable); see also 4 J.A. 914-923 (listing dozens of examples of unquantified benefits). Petitioners offer no reason to suppose that EPA would or should have simply ignored the unquantified benefits if the agency had viewed costs as relevant to the power-plant listing decision.

Petitioners also dismiss (NMA Br. 41-42; States Br. 47-48), as irrelevant to the listing decision, the tens of

billions of dollars in ancillary benefits that the 2012 Final Rule will achieve by reducing emissions of particulate matter and sulfur dioxide. But considering such co-benefits is an accepted practice in cost-benefit analysis, the whole purpose of which is to measure the net impact that a regulation will have on social welfare.[18] Considering the co-benefits is also consistent with petitioners' basic theory of this case, which is that "when deciding whether it is appropriate to impose regulation, a reasonable person would consider both the pros and cons—in other words, the benefits and costs—of regulation." States Br. 24.

Indeed, Section 7412(n)(1)(A) itself reflects Congress's judgment that co-benefits are a valid basis

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[18] See, *e.g.*, Exec. Order No. 12,866, 3 C.F.R. 639 (1994) (directing EPA to assess "all costs and benefits of available regulatory alternatives"); Nat'l Ctr. for Envtl. Econ., Office of Policy, EPA, *Guidelines for Preparing Economic Analyses*, 11-2 (2014), http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0568-50.pdf/$file/EE-0568-50.pdf (requiring consideration of "ancillary (or co-) benefits and costs"); Office of Mgmt. & Budget, *OMB Circular A-4* 26 (2003), http://www.whitehouse.gov/sites/default/files/omb/assets/omb/circulars/a004/a-4.pdf (instructing agencies to "look beyond the direct benefits and direct costs of your rulemaking and consider any important ancillary benefits," specifically including any "favorable impact of the rule that is typically unrelated or secondary to the statutory purpose of the rulemaking"); see also, *e.g.*, Michael A. Livermore & Richard L. Revesz, *Rethinking Health-Based Environmental Standards*, 89 N.Y.U. L. Rev. 1184, 1250-1251 (2014) (endorsing consideration of ancillary benefits); Samuel J. Rascoff & Richard L. Revesz, *The Biases of Risk Tradeoff Analysis: Towards Parity in Environmental and Health-and-Safety Regulation*, 69 U. Chi. L. Rev. 1763, 1823-1824, 1831-1833 (2002) (same); Cass R. Sunstein, Essay, *The Real World of Cost-Benefit Analysis: Thirty-Six Questions (and Almost as Many Answers)*, 114 Colum. L. Rev. 167, 190 (2014) (same).

for making regulatory decisions under the CAA. Section 7412(n)(1)(A) requires EPA to evaluate how the Act's *other* provisions—*i.e.*, provisions designed to limit emissions of pollutants other than the hazardous air pollutants at which the NESHAP program is directed—will impact power-plant emissions of hazardous air pollutants listed in Section 7412(b). 42 U.S.C. 7412(n)(1)(A). In other words, Section 7412(n)(1)(A) requires EPA to consider the *co-benefits* of the Act's other regulatory programs. There is no sound reason to construe the same provision as prohibiting agency consideration of the co-benefits associated with regulation authorized by Section 7412(n)(1)(A) itself.[19]

Even apart from the co-benefits, power plants are responsible for approximately 50% of *total* anthropogenic mercury emissions and 82% of *total* anthropogenic hydrogen chloride (a listed hazardous acid gas) emissions in the United States. 77 Fed. Reg. at 9310. The 2012 Final Rule will reduce emissions of those pollutants from coal-fired plants by approximately 75% and 88%, respectively. *Id.* at 9424. It is not possible to quantify, in monetary terms, many of the benefits to be achieved from reducing such emissions. See, *e.g.*, *id.* at 9428; 4 J.A. 940-944. But petitioners are wrong to imply that no such benefits exist.

4. Petitioners' challenge to the 2012 Final Rule is ultimately self-contradictory. To prevail in this Court, petitioners must establish that Section 7412(n)(1)(A) required EPA to fully consider, at the listing stage,

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[19] The CAA's legislative history also reflects Congress's expectation that EPA would consider co-benefits when setting standards for hazardous pollutants for area sources. See 1989 Senate Report 172.

the costs and benefits of regulating power plants under the NESHAP program. But their argument that the 2012 Final Rule is substantively irrational, and that an "appropriate" consideration of costs would have produced a different result, depends on their view that EPA must *ignore* a huge portion of the benefits that the rule is likely to produce. Those arguments are not compatible with one another.

In light of Section 7412(n)(1)(A)'s text and purposes, and of the larger statutory context in which that provision appears, EPA reasonably concluded that Congress did not intend the agency to consider costs when deciding whether to list power plants for NESHAP regulation. But even if consideration of costs were required, the RIA provides no basis for inferring that EPA would or should have made a different listing decision.

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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FEBRUARY 2015

APPENDIX

1. 42 U.S.C. 7408(a) provides:

Air quality criteria and control techniques

(a) Air pollutant list; publication and revision by Administrator; issuance of air quality criteria for air pollutants

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall within 30 days after December 31, 1970, publish, and shall from time to time thereafter revise, a list which includes each air pollutant—

(A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(C) for which air quality criteria had not been issued before December 31, 1970 but for which he plans to issue air quality criteria under this section.

(2) The Administrator shall issue air quality criteria for an air pollutant within 12 months after he has included such pollutant in a list under paragraph (1). Air quality criteria for an air pollutant shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities. The

criteria for an air pollutant, to the extent practicable, shall include information on—

(A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;

(B) the types of air pollutants which, when present in the atmosphere, may interact with such pollutant to produce an adverse effect on public health or welfare; and

(C) any known or anticipated adverse effects on welfare.

2. 42 U.S.C. 7409 provides:

National primary and secondary ambient air quality standards

(a) Promulgation

(1) The Administrator—

(A) within 30 days after December 31, 1970, shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall by regulation promulgate such proposed national primary and

secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after December 31, 1970, the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) of this section shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) of this section shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary standards may be revised in the same manner as promulgated.

(c) National primary ambient air quality standard for nitrogen dioxide

The Administrator shall, not later than one year after August 7, 1977, promulgate a national primary ambient air quality standard for NO_2 concentrations over a period of not more than 3 hours unless, based on the criteria issued under section 7408(c) of this title, he finds that there is no significant evidence that such a standard for such a period is requisite to protect public health.

(d) Review and revision of criteria and standards; independent scientific review committee; appointment; advisory functions

(1) Not later than December 31, 1980, and at five-year intervals thereafter, the Administrator shall complete a thorough review of the criteria published under section 7408 of this title and the national ambient air quality standards promulgated under this section and shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section. The Administrator may review and revise criteria or promulgate new standards earlier or more frequently than required under this paragraph.

(2)(A) The Administrator shall appoint an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies.

(B) Not later than January 1, 1980, and at five-year intervals thereafter, the committee referred to in subparagraph (A) shall complete a review of the criteria published under section 7408 of this title and the national primary and secondary ambient air quality standards promulgated under this section and shall recommend to the Administrator any new national ambient air quality standards and revisions of existing criteria and standards as may be appropriate under section 7408 of this title and subsection (b) of this section.

(C) Such committee shall also (i) advise the Administrator of areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised national ambient air quality standards, (ii) describe the research efforts necessary to provide the required information, (iii) advise the Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity, and (iv) advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards.

3. 42 U.S.C. 7410(a) provides:

State implementation plans for national primary and secondary ambient air quality standards

(a) **Adoption of plan by State; submission to Administrator; content of plan; revision; new sources; indirect source review program; supplemental or intermittent control systems**

(1) Each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator, within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) under section 7409 of this title for any air pollutant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(2) Each implementation plan submitted by a State under this chapter shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—

(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter;

(B) provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to—

(i) monitor, compile, and analyze data on ambient air quality, and

(ii) upon request, make such data available to the Administrator;

(C) include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D of this subchapter;

(D) contain adequate provisions—

(i) prohibiting, consistent with the provisions of this subchapter, any source or other type of

emissions activity within the State from emitting any air pollutant in amounts which will—

(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or

(II) interfere with measures required to be included in the applicable implementation plan for any other State under part C of this subchapter to prevent significant deterioration of air quality or to protect visibility,

(ii) insuring compliance with the applicable requirements of sections 7426 and 7415 of this title (relating to interstate and international pollution abatement);

(E) provide (i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local governments for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof), (ii) requirements that the State comply with the requirements respecting State boards under section 7428 of this title, and (iii) necessary assurances that, where the State has relied on a local or regional

government, agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision;

(F) require, as may be prescribed by the Administrator—

(i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources,

(ii) periodic reports on the nature and amounts of emissions and emissions-related data from such sources, and

(iii) correlation of such reports by the State agency with any emission limitations or standards established pursuant to this chapter, which reports shall be available at reasonable times for public inspection;

(G) provide for authority comparable to that in section 7603 of this title and adequate contingency plans to implement such authority;

(H) provide for revision of such plan—

(i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard, and

(ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of

information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this chapter;

(I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D of this subchapter (relating to nonattainment areas);

(J) meet the applicable requirements of section 7421 of this title (relating to consultation), section 7427 of this title (relating to public notification), and part C of this subchapter (relating to prevention of significant deterioration of air quality and visibility protection);

(K) provide for—

(i) the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and

(ii) the submission, upon request, of data related to such air quality modeling to the Administrator;

(L) require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this chapter, a fee sufficient to cover—

(i) the reasonable costs of reviewing and acting upon any application for such a permit, and

(ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action),

until such fee requirement is superseded with respect to such sources by the Administrator's approval of a fee program under subchapter V of this chapter; and

(M) provide for consultation and participation by local political subdivisions affected by the plan.

(3)(A) Repealed. Pub. L. 101-549, title I, § 101(d)(1), Nov. 15, 1990, 104 Stat. 2409.

(B) As soon as practicable, the Administrator shall, consistent with the purposes of this chapter and the Energy Supply and Environmental Coordination Act of 1974 [15 U.S.C. 791 et seq.], review each State's applicable implementation plans and report to the State on whether such plans can be revised in relation to fuel burning stationary sources (or persons supplying fuel to such sources) without interfering with the attainment and maintenance of any national ambient air quality standard within the period permitted in this section. If the Administrator determines that any such plan can be revised, he shall notify the State that a plan revision may be submitted by the State. Any plan revision which is submitted by the State shall,

after public notice and opportunity for public hearing, be approved by the Administrator if the revision relates only to fuel burning stationary sources (or persons supplying fuel to such sources), and the plan as revised complies with paragraph (2) of this subsection. The Administrator shall approve or disapprove any revision no later than three months after its submission.

(C) Neither the State, in the case of a plan (or portion thereof) approved under this subsection, nor the Administrator, in the case of a plan (or portion thereof) promulgated under subsection (c) of this section, shall be required to revise an applicable implementation plan because one or more exemptions under section 7418 of this title (relating to Federal facilities), enforcement orders under section 7413(d)[1] of this title, suspensions under subsection (f) or (g) of this section (relating to temporary energy or economic authority), orders under section 7419 of this title (relating to primary nonferrous smelters), or extensions of compliance in decrees entered under section 7413(e)[1] of this title (relating to iron- and steel-producing operations) have been granted, if such plan would have met the requirements of this section if no such exemptions, orders, or extensions had been granted.

(4) Repealed. Pub. L. 101-549, title I, § 101(d)(2), Nov. 15, 1990, 104 Stat. 2409.

(5)(A)(i) Any State may include in a State implementation plan, but the Administrator may not require as a condition of approval of such plan under this sec-

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[1] See References in Text note below.

tion, any indirect source review program. The Administrator may approve and enforce, as part of an applicable implementation plan, an indirect source review program which the State chooses to adopt and submit as part of its plan.

(ii) Except as provided in subparagraph (B), no plan promulgated by the Administrator shall include any indirect source review program for any air quality control region, or portion thereof.

(iii) Any State may revise an applicable implementation plan approved under this subsection to suspend or revoke any such program included in such plan, provided that such plan meets the requirements of this section.

(B) The Administrator shall have the authority to promulgate, implement and enforce regulations under subsection (c) of this section respecting indirect source review programs which apply only to federally assisted highways, airports, and other major federally assisted indirect sources and federally owned or operated indirect sources.

(C) For purposes of this paragraph, the term "indirect source" means a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and other facilities subject to any measure for management of parking supply (within the meaning of subsection (c)(2)(D)(ii) of this section), including regulation of existing off-street parking but such term does not include new or existing on-street parking. Direct

emissions sources or facilities at, within, or associated with, any indirect source shall not be deemed indirect sources for the purpose of this paragraph.

(D) For purposes of this paragraph the term "indirect source review program" means the facility-by-facility review of indirect sources of air pollution, including such measures as are necessary to assure, or assist in assuring, that a new or modified indirect source will not attract mobile sources of air pollution, the emissions from which would cause or contribute to air pollution concentrations—

(i) exceeding any national primary ambient air quality standard for a mobile source-related air pollutant after the primary standard attainment date, or

(ii) preventing maintenance of any such standard after such date.

(E) For purposes of this paragraph and paragraph (2)(B), the term "transportation control measure" does not include any measure which is an "indirect source review program"

(6) No State plan shall be treated as meeting the requirements of this section unless such plan provides that in the case of any source which uses a supplemental, or intermittent control system for purposes of meeting the requirements of an order under section 7413(d)[1] of this title or section 7419 of this title (relating to primary nonferrous smelter orders), the owner or operator of such source may not temporarily reduce the pay of any employee by reason of the use of such

supplemental or intermittent or other dispersion dependent control system.

4. 42. U.S.C. 7411(a)-(e) provides:

Standards of performance for new stationary sources

(a) Definitions

For purposes of this section:

(1) The term "standard of performance" means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

(2) The term "new source" means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.

(3) The term "stationary source" means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.

(4) The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

(5) The term "owner or operator" means any person who owns, leases, operates, controls, or supervises a stationary source.

(6) The term "existing source" means any stationary source other than a new source.

(7) The term "technological system of continuous emission reduction" means—

(A) a technological process for production or operation by any source which is inherently low-polluting or nonpolluting, or

(B) a technological system for continuous reduction of the pollution generated by a source before such pollution is emitted into the ambient air, including precombustion cleaning or treatment of fuels.

(8) A conversion to coal (A) by reason of an order under section 2(a) of the Energy Supply and Environmental Coordination Act of 1974 [15 U.S.C. 792(a)] or any amendment thereto, or any subsequent enactment which supersedes such Act [15 U.S.C. 791 et seq.], or (B) which qualifies under section 7413(d)(5)(A)(ii)[1] of this title, shall not be

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[1] See References in Text note below.

deemed to be a modification for purposes of paragraphs (2) and (4) of this subsection.

(b) List of categories of stationary sources; standards of performance; information on pollution control techniques; sources owned or operated by United States; particular systems; revised standards

(1)(A) The Administrator shall, within 90 days after December 31, 1970, publish (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(B) Within one year after the inclusion of a category of stationary sources in a list under subparagraph (A), the Administrator shall publish proposed regulations, establishing Federal standards of performance for new sources within such category. The Administrator shall afford interested persons an opportunity for written comment on such proposed regulations. After considering such comments, he shall promulgate, within one year after such publication, such standards with such modifications as he deems appropriate. The Administrator shall, at least every 8 years, review and, if appropriate, revise such standards following the procedure required by this subsection for promulgation of such standards. Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if the Administrator determines that such review is not appropriate in light of readily available information on the efficacy of such standard. Standards of performance or revi-

sions thereof shall become effective upon promulgation. When implementation and enforcement of any requirement of this chapter indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice.

(2) The Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.

(3) The Administrator shall, from time to time, issue information on pollution control techniques for categories of new sources and air pollutants subject to the provisions of this section.

(4) The provisions of this section shall apply to any new source owned or operated by the United States.

(5) Except as otherwise authorized under subsection (h) of this section, nothing in this section shall be construed to require, or to authorize the Administrator to require, any new or modified source to install and operate any particular technological system of continuous emission reduction to comply with any new source standard of performance.

(6) The revised standards of performance required by enactment of subsection (a)(1)(A)(i) and (ii)[2] of this section shall be promulgated not later than one year after August 7, 1977. Any new or modified fossil fuel

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[2] See References in Text note below.

fired stationary source which commences construction prior to the date of publication of the proposed revised standards shall not be required to comply with such revised standards.

(c) State implementation and enforcement of standards of performance

(1) Each State may develop and submit to the Administrator a procedure for implementing and enforcing standards of performance for new sources located in such State. If the Administrator finds the State procedure is adequate, he shall delegate to such State any authority he has under this chapter to implement and enforce such standards.

(2) Nothing in this subsection shall prohibit the Administrator from enforcing any applicable standard of performance under this section.

(d) Standards of performance for existing sources; remaining useful life of source

(1) The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforce-

ment of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

(2) The Administrator shall have the same authority—

(A) to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under section 7410(c) of this title in the case of failure to submit an implementation plan, and

(B) to enforce the provisions of such plan in cases where the State fails to enforce them as he would have under sections 7413 and 7414 of this title with respect to an implementation plan.

In promulgating a standard of performance under a plan prescribed under this paragraph, the Administrator shall take into consideration, among other factors, remaining useful lives of the sources in the category of sources to which such standard applies.

(e) Prohibited acts

After the effective date of standards of performance promulgated under this section, it shall be unlawful for any owner or operator of any new source to operate such source in violation of any standard of performance applicable to such source.

5. 42 U.S.C. 7412 provides in pertinent part:

Hazardous air pollutants

(a) Definitions

For purposes of this section, except subsection (r) of this section—

(1) Major source

The term "major source" means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.

(2) Area source

The term "area source" means any stationary source of hazardous air pollutants that is not a major source. For purposes of this section, the term "area source" shall not include motor vehicles or nonroad vehicles subject to regulation under subchapter II of this chapter.

(3) Stationary source

The term "stationary source" shall have the same meaning as such term has under section 7411(a) of this title.

(4) New source

The term "new source" means a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations under this section establishing an emission standard applicable to such source.

(5) Modification

The term "modification" means any physical change in, or change in the method of operation of, a major source which increases the actual emissions of any hazardous air pollutant emitted by such source by more than a de minimis amount or which results in the emission of any hazardous air pollutant not previously emitted by more than a de minimis amount.

(6) Hazardous air pollutant

The term "hazardous air pollutant" means any air pollutant listed pursuant to subsection (b) of this section.

(7) Adverse environmental effect

The term "adverse environmental effect" means any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or

threatened species or significant degradation of environmental quality over broad areas.

(8) Electric utility steam generating unit

The term "electric utility steam generating unit" means any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale shall be considered an electric utility steam generating unit.

(9) Owner or operator

The term "owner or operator" means any person who owns, leases, operates, controls, or supervises a stationary source.

(10) Existing source

The term "existing source" means any stationary source other than a new source.

(11) Carcinogenic effect

Unless revised, the term "carcinogenic effect" shall have the meaning provided by the Administrator under Guidelines for Carcinogenic Risk Assessment as of the date of enactment.[1] Any revisions in the existing Guidelines shall be subject to notice and opportunity for comment.

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[1] See References in Text note below.

(b) List of pollutants

(1) Initial list

The Congress establishes for purposes of this section a list of hazardous air pollutants as follows:

CAS number	Chemical name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
71432	Benzene (including benzene from gasoline)
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl)phthalate (DEHP)
542881	Bis(chloromethyl)ether
75252	Bromoform

106990	1,3-Butadiene
156627	Calcium cyanamide
105602	Caprolactam
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture)
95487	o-Cresol
108394	m-Cresol
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane

84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl) ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3'-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene

51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichloroethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)

74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
78933	Methyl ethyl ketone (2-Butanone)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4'-Methylenedianiline
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine

7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol

121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide Compounds[1]
0	Glycol ethers[2]
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers[3]
0	Nickel Compounds
0	Polycylic Organic Matter[4]
0	Radionuclides (including radon)[5]

0 Selenium Compounds

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

[1] X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$.

[2] Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH2CH2)_n$-OR' where

n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-$(OCH2CH)_n$-OH. Polymers are excluded from the glycol category.

[3] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[5] A type of atom which spontaneously undergoes radioactive decay.

(2) Revision of the list

The Administrator shall periodically review the list established by this subsection and publish the results thereof and, where appropriate, revise such list by rule, adding pollutants which present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects (including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic) or adverse environmental effects whether through ambient con-

centrations, bioaccumulation, deposition, or otherwise, but not including releases subject to regulation under subsection (r) of this section as a result of emissions to the air. No air pollutant which is listed under section 7408(a) of this title may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which independently meets the listing criteria of this paragraph and is a precursor to a pollutant which is listed under section 7408(a) of this title or to any pollutant which is in a class of pollutants listed under such section. No substance, practice, process or activity regulated under subchapter VI of this chapter shall be subject to regulation under this section solely due to its adverse effects on the environment.

(3) Petitions to modify the list

(A) Beginning at any time after 6 months after November 15, 1990, any person may petition the Administrator to modify the list of hazardous air pollutants under this subsection by adding or deleting a substance or, in case of listed pollutants without CAS numbers (other than coke oven emissions, mineral fibers, or polycyclic organic matter) removing certain unique substances. Within 18 months after receipt of a petition, the Administrator shall either grant or deny the petition by publishing a written explanation of the reasons for the Administrator's decision. Any such petition shall include a showing by the petitioner that there is adequate data on the health or environmental de-

fects[2] of the pollutant or other evidence adequate to support the petition. The Administrator may not deny a petition solely on the basis of inadequate resources or time for review.

(B) The Administrator shall add a substance to the list upon a showing by the petitioner or on the Administrator's own determination that the substance is an air pollutant and that emissions, ambient concentrations, bioaccumulation or deposition of the substance are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects.

(C) The Administrator shall delete a substance from the list upon a showing by the petitioner or on the Administrator's own determination that there is adequate data on the health and environmental effects of the substance to determine that emissions, ambient concentrations, bioaccumulation or deposition of the substance may not reasonably be anticipated to cause any adverse effects to the human health or adverse environmental effects.

(D) The Administrator shall delete one or more unique chemical substances that contain a listed hazardous air pollutant not having a CAS number (other than coke oven emissions, mineral fibers, or polycyclic organic matter) upon a showing by the petitioner or on the Administrator's own determination that such unique chemical substances that contain the named chemical of such listed hazardous air pollutant meet the deletion requirements of

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[2] So in original. Probably should be "effects".

subparagraph (C). The Administrator must grant or deny a deletion petition prior to promulgating any emission standards pursuant to subsection (d) of this section applicable to any source category or subcategory of a listed hazardous air pollutant without a CAS number listed under subsection (b) of this section for which a deletion petition has been filed within 12 months of November 15, 1990.

(4) Further information

If the Administrator determines that information on the health or environmental effects of a substance is not sufficient to make a determination required by this subsection, the Administrator may use any authority available to the Administrator to acquire such information.

(5) Test methods

The Administrator may establish, by rule, test measures and other analytic procedures for monitoring and measuring emissions, ambient concentrations, deposition, and bioaccumulation of hazardous air pollutants.

(6) Prevention of significant deterioration

The provisions of part C of this subchapter (prevention of significant deterioration) shall not apply to pollutants listed under this section.

(7) Lead

The Administrator may not list elemental lead as a hazardous air pollutant under this subsection.

(c) List of source categories

(1) In general

Not later than 12 months after November 15, 1990, the Administrator shall publish, and shall from time to time, but no less often than every 8 years, revise, if appropriate, in response to public comment or new information, a list of all categories and subcategories of major sources and area sources (listed under paragraph (3)) of the air pollutants listed pursuant to subsection (b) of this section. To the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of source categories established pursuant to section 7411 of this title and part C of this subchapter. Nothing in the preceding sentence limits the Administrator's authority to establish subcategories under this section, as appropriate.

(2) Requirement for emissions standards

For the categories and subcategories the Administrator lists, the Administrator shall establish emissions standards under subsection (d) of this section, according to the schedule in this subsection and subsection (e) of this section.

(3) Area sources

The Administrator shall list under this subsection each category or subcategory of area sources which the Administrator finds presents a threat of adverse effects to human health or the environment (by such sources individually or in the aggregate) warranting regulation under this section. The Ad-

ministrator shall, not later than 5 years after November 15, 1990, and pursuant to subsection (k)(3)(B) of this section, list, based on actual or estimated aggregate emissions of a listed pollutant or pollutants, sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the area source emissions of the 30 hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas are subject to regulation under this section. Such regulations shall be promulgated not later than 10 years after November 15, 1990.

(4) Previously regulated categories

The Administrator may, in the Administrator's discretion, list any category or subcategory of sources previously regulated under this section as in effect before November 15, 1990.

(5) Additional categories

In addition to those categories and subcategories of sources listed for regulation pursuant to paragraphs (1) and (3), the Administrator may at any time list additional categories and subcategories of sources of hazardous air pollutants according to the same criteria for listing applicable under such paragraphs. In the case of source categories and subcategories listed after publication of the initial list required under paragraph (1) or (3), emission standards under subsection (d) of this section for the category or subcategory shall be promulgated within 10 years after November 15, 1990, or

within 2 years after the date on which such category or subcategory is listed, whichever is later.

(6) Specific pollutants

With respect to alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin, the Administrator shall, not later than 5 years after November 15, 1990, list categories and subcategories of sources assuring that sources accounting for not less than 90 per centum of the aggregate emissions of each such pollutant are subject to standards under subsection (d)(2) or (d)(4) of this section. Such standards shall be promulgated not later than 10 years after November 15, 1990. This paragraph shall not be construed to require the Administrator to promulgate standards for such pollutants emitted by electric utility steam generating units.

(7) Research facilities

The Administrator shall establish a separate category covering research or laboratory facilities, as necessary to assure the equitable treatment of such facilities. For purposes of this section, "research or laboratory facility" means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products

for commercial sale in commerce, except in a de minimis manner.

(8) Boat manufacturing

When establishing emissions standards for styrene, the Administrator shall list boat manufacturing as a separate subcategory unless the Administrator finds that such listing would be inconsistent with the goals and requirements of this chapter.

(9) Deletions from the list

(A) Where the sole reason for the inclusion of a source category on the list required under this subsection is the emission of a unique chemical substance, the Administrator shall delete the source category from the list if it is appropriate because of action taken under either subparagraphs (C) or (D) of subsection (b)(3) of this section.

(B) The Administrator may delete any source category from the list under this subsection, on petition of any person or on the Administrator's own motion, whenever the Administrator makes the following determination or determinations, as applicable:

(i) In the case of hazardous air pollutants emitted by sources in the category that may result in cancer in humans, a determination that no source in the category (or group of sources in the case of area sources) emits such hazardous air pollutants in quantities which may cause a lifetime risk of cancer greater than one in one million to the individual in the population who is most exposed to emissions of such pollutants

from the source (or group of sources in the case of area sources).

(ii) In the case of hazardous air pollutants that may result in adverse health effects in humans other than cancer or adverse environmental effects, a determination that emissions from no source in the category or subcategory concerned (or group of sources in the case of area sources) exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source (or from a group of sources in the case of area sources).

The Administrator shall grant or deny a petition under this paragraph within 1 year after the petition is filed.

(d) Emission standards

(1) In general

The Administrator shall promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section in accordance with the schedules provided in subsections (c) and (e) of this section. The Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards except that, there shall be no delay in the compliance date for any standard applicable to any source under subsection (i) of this

section as the result of the authority provided by this sentence.

(2) Standards and methods

Emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section (including a prohibition on such emissions, where achievable) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies, through application of measures, processes, methods, systems or techniques including, but not limited to, measures which—

(A) reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications,

(B) enclose systems or processes to eliminate emissions,

(C) collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point,

(D) are design, equipment, work practice, or operational standards (including requirements

for operator training or certification) as provided in subsection (h) of this section, or

(E) are a combination of the above.

None of the measures described in subparagraphs (A) through (D) shall, consistent with the provisions of section 7414(c) of this title, in any way compromise any United States patent or United States trademark right, or any confidential business information, or any trade secret or any other intellectual property right.

(3) New and existing sources

The maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated under this subsection for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than—

(A) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such

standard, with the lowest achievable emission rate (as defined by section 7501 of this title) applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or

(B) the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

(4) Health threshold

With respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.

(5) Alternative standard for area sources

With respect only to categories and subcategories of area sources listed pursuant to subsection (c) of this section, the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f) of this section, elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.

(6) Review and revision

The Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years.

(7) Other requirements preserved

No emission standard or other requirement promulgated under this section shall be interpreted, construed or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established pursuant to section 7411 of this title, part C or D of this subchapter, or other authority of this chapter or a standard issued under State authority.

(8) Coke ovens

(A) Not later than December 31, 1992, the Administrator shall promulgate regulations establishing emission standards under paragraphs (2) and (3) of this subsection for coke oven batteries. In establishing such standards, the Administrator shall evaluate—

(i) the use of sodium silicate (or equivalent) luting compounds to prevent door leaks, and other operating practices and technologies for their effectiveness in reducing coke oven emissions, and their suitability for use on new and existing coke oven batteries, taking into account costs and reasonable commercial door warranties; and

(ii) as a basis for emission standards under this subsection for new coke oven batteries that begin construction after the date of proposal of such standards, the Jewell design Thompson non-recovery coke oven batteries and other non-recovery coke oven technologies, and other appropriate emission control and coke production technologies, as to their effectiveness in reducing coke oven emissions and their capability for production of steel quality coke.

Such regulations shall require at a minimum that coke oven batteries will not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the closing of self-sealing oven doors. Notwithstanding subsection (i) of this section, the compliance date for such emission standards for existing coke oven batteries shall be December 31, 1995.

(B) The Administrator shall promulgate work practice regulations under this subsection for coke oven batteries requiring, as appropriate—

(i) the use of sodium silicate (or equivalent) luting compounds, if the Administrator determines that use of sodium silicate is an effective means of emissions control and is achievable, taking into account costs and reasonable commercial warranties for doors and related equipment; and

(ii) door and jam cleaning practices.

Notwithstanding subsection (i) of this section, the compliance date for such work practice regulations for coke oven batteries shall be not later than the date 3 years after November 15, 1990.

(C) For coke oven batteries electing to qualify for an extension of the compliance date for standards promulgated under subsection (f) of this section in accordance with subsection (i)(8) of this section, the emission standards under this subsection for coke oven batteries shall require that coke oven batteries not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the closing of self-sealing doors. Notwithstanding subsection (i) of this section, the compliance date for such emission standards for existing coke oven batteries seeking an extension shall be not later than the date 3 years after November 15, 1990.

(9) Sources licensed by the Nuclear Regulatory Commission

No standard for radionuclide emissions from any category or subcategory of facilities licensed by the Nuclear Regulatory Commission (or an Agreement State) is required to be promulgated under this section if the Administrator determines, by rule, and after consultation with the Nuclear Regulatory Commission, that the regulatory program established by the Nuclear Regulatory Commission pursuant to the Atomic Energy Act [42 U.S.C. 2011 et seq.] for such category or subcategory provides

an ample margin of safety to protect the public health. Nothing in this subsection shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce any standard or limitation respecting emissions of radionuclides which is more stringent than the standard or limitation in effect under section 7411 of this title or this section.

(10) Effective date

Emission standards or other regulations promulgated under this subsection shall be effective upon promulgation.

(e) Schedule for standards and review

(1) In general

The Administrator shall promulgate regulations establishing emission standards for categories and subcategories of sources initially listed for regulation pursuant to subsection (c)(1) of this section as expeditiously as practicable, assuring that—

(A) emission standards for not less than 40 categories and subcategories (not counting coke oven batteries) shall be promulgated not later than 2 years after November 15, 1990;

(B) emission standards for coke oven batteries shall be promulgated not later than December 31, 1992;

(C) emission standards for 25 per centum of the listed categories and subcategories shall be promulgated not later than 4 years after November 15, 1990;

(D) emission standards for an additional 25 per centum of the listed categories and subcategories shall be promulgated not later than 7 years after November 15, 1990; and

(E) emission standards for all categories and subcategories shall be promulgated not later than 10 years after November 15, 1990.

(2) Priorities

In determining priorities for promulgating standards under subsection (d) of this section, the Administrator shall consider—

(A) the known or anticipated adverse effects of such pollutants on public health and the environment;

(B) the quantity and location of emissions or reasonably anticipated emissions of hazardous air pollutants that each category or subcategory will emit; and

(C) the efficiency of grouping categories or subcategories according to the pollutants emitted, or the processes or technologies used.

(3) Published schedule

Not later than 24 months after November 15, 1990, and after opportunity for comment, the Administrator shall publish a schedule establishing a date for the promulgation of emission standards for each category and subcategory of sources listed pursuant to subsection (c)(l) and (3) of this section which shall be consistent with the requirements of paragraphs (1) and (2). The determination of priorities for the promul-

gation of standards pursuant to this paragraph is not a rulemaking and shall not be subject to judicial review, except that, failure to promulgate any standard pursuant to the schedule established by this paragraph shall be subject to review under section 7604 of this title.

(4) Judicial review

Notwithstanding section 7607 of this title, no action of the Administrator adding a pollutant to the list under subsection (b) of this section or listing a source category or subcategory under subsection (c) of this section shall be a final agency action subject to judicial review, except that any such action may be reviewed under such section 7607 of this title when the Administrator issues emission standards for such pollutant or category.

(5) Publicly owned treatment works

The Administrator shall promulgate standards pursuant to subsection (d) of this section applicable to publicly owned treatment works (as defined in title II of the Federal Water Pollution Control Act [33 U.S.C. 1281 et seq.]) not later than 5 years after November 15, 1990.

(f) Standard to protect health and environment

(1) Report

Not later than 6 years after November 15, 1990, the Administrator shall investigate and report, after consultation with the Surgeon General and after opportunity for public comment, to Congress on—

(A) methods of calculating the risk to public health remaining, or likely to remain, from sources subject to regulation under this section after the application of standards under subsection (d) of this section;

(B) the public health significance of such estimated remaining risk and the technologically and commercially available methods and costs of reducing such risks;

(C) the actual health effects with respect to persons living in the vicinity of sources, any available epidemiological or other health studies, risks presented by background concentrations of hazardous air pollutants, any uncertainties in risk assessment methodology or other health assessment technique, and any negative health or environmental consequences to the community of efforts to reduce such risks; and

(D) recommendations as to legislation regarding such remaining risk.

(2) Emission standards

(A) If Congress does not act on any recommendation submitted under paragraph (1), the Administrator shall, within 8 years after promulgation of standards for each category or subcategory of sources pursuant to subsection (d) of this section, promulgate standards for such category or subcategory if promulgation of such standards is required in order to provide an ample margin of safety to protect public health in accordance with this section (as in effect before November 15, 1990) or to pre-

vent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. Emission standards promulgated under this subsection shall provide an ample margin of safety to protect public health in accordance with this section (as in effect before November 15, 1990), unless the Administrator determines that a more stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. If standards promulgated pursuant to subsection (d) of this section and applicable to a category or subcategory of sources emitting a pollutant (or pollutants) classified as a known, probable or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than one in one million, the Administrator shall promulgate standards under this subsection for such source category.

(B) Nothing in subparagraph (A) or in any other provision of this section shall be construed as affecting, or applying to the Administrator's interpretation of this section, as in effect before November 15, 1990, and set forth in the Federal Register of September 14, 1989 (54 Federal Register 38044).

(C) The Administrator shall determine whether or not to promulgate such standards and, if the Administrator decides to promulgate such standards, shall promulgate the standards 8 years after promulgation of the standards under subsection (d)

of this section for each source category or subcategory concerned. In the case of categories or subcategories for which standards under subsection (d) of this section are required to be promulgated within 2 years after November 15, 1990, the Administrator shall have 9 years after promulgation of the standards under subsection (d) of this section to make the determination under the preceding sentence and, if required, to promulgate the standards under this paragraph.

(3) Effective date

Any emission standard established pursuant to this subsection shall become effective upon promulgation.

(4) Prohibition

No air pollutant to which a standard under this subsection applies may be emitted from any stationary source in violation of such standard, except that in the case of an existing source—

(A) such standard shall not apply until 90 days after its effective date, and

(B) the Administrator may grant a waiver permitting such source a period of up to 2 years after the effective date of a standard to comply with the standard if the Administrator finds that such period is necessary for the installation of controls and that steps will be taken during the period of the waiver to assure that the health of persons will be protected from imminent endangerment.

(5) Area sources

The Administrator shall not be required to conduct any review under this subsection or promulgate emission limitations under this subsection for any category or subcategory of area sources that is listed pursuant to subsection (c)(3) of this section and for which an emission standard is promulgated pursuant to subsection (d)(5) of this section.

(6) Unique chemical substances

In establishing standards for the control of unique chemical substances of listed pollutants without CAS numbers under this subsection, the Administrator shall establish such standards with respect to the health and environmental effects of the substances actually emitted by sources and direct transformation byproducts of such emissions in the categories and subcategories.

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(n) Other provisions

(1) Electric utility steam generating units

(A) The Administrator shall perform a study of the hazards to public health reasonably anticipated to occur as a result of emissions by electric utility steam generating units of pollutants listed under subsection (b) of this section after imposition of the requirements of this chapter. The Administrator shall report the results of this study to the Congress within 3 years after November 15, 1990. The Administrator shall develop and describe in the Administrator's report

to Congress alternative control strategies for emissions which may warrant regulation under this section. The Administrator shall regulate electric utility steam generating units under this section, if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph.

(B) The Administrator shall conduct, and transmit to the Congress not later than 4 years after November 15, 1990, a study of mercury emissions from electric utility steam generating units, municipal waste combustion units, and other sources, including area sources. Such study shall consider the rate and mass of such emissions, the health and environmental effects of such emissions, technologies which are available to control such emissions, and the costs of such technologies.

(C) The National Institute of Environmental Health Sciences shall conduct, and transmit to the Congress not later than 3 years after November 15, 1990, a study to determine the threshold level of mercury exposure below which adverse human health effects are not expected to occur. Such study shall include a threshold for mercury concentrations in the tissue of fish which may be consumed (including consumption by sensitive populations) without adverse effects to public health.

(2) Coke oven production technology study

(A) The Secretary of the Department of Energy and the Administrator shall jointly undertake a 6-year study to assess coke oven production emission control technologies and to assist in the development and commercialization of technically practicable and economically viable control technologies which have the potential to significantly reduce emissions of hazardous air pollutants from coke oven production facilities. In identifying control technologies, the Secretary and the Administrator shall consider the range of existing coke oven operations and battery design and the availability of sources of materials for such coke ovens as well as alternatives to existing coke oven production design.

(B) The Secretary and the Administrator are authorized to enter into agreements with persons who propose to develop, install and operate coke production emission control technologies which have the potential for significant emissions reductions of hazardous air pollutants provided that Federal funds shall not exceed 50 per centum of the cost of any project assisted pursuant to this paragraph.

(C) On completion of the study, the Secretary shall submit to Congress a report on the results of the study and shall make recommendations to the Administrator identifying practicable and economically viable control technologies for coke oven production facilities to reduce

residual risks remaining after implementation of the standard under subsection (d) of this section.

(D) There are authorized to be appropriated $5,000,000 for each of the fiscal years 1992 through 1997 to carry out the program authorized by this paragraph.

(3) Publicly owned treatment works

The Administrator may conduct, in cooperation with the owners and operators of publicly owned treatment works, studies to characterize emissions of hazardous air pollutants emitted by such facilities, to identify industrial, commercial and residential discharges that contribute to such emissions and to demonstrate control measures for such emissions. When promulgating any standard under this section applicable to publicly owned treatment works, the Administrator may provide for control measures that include pretreatment of discharges causing emissions of hazardous air pollutants and process or product substitutions or limitations that may be effective in reducing such emissions. The Administrator may prescribe uniform sampling, modeling and risk assessment methods for use in implementing this subsection.

(4) Oil and gas wells; pipeline facilities

(A) Notwithstanding the provisions of subsection (a) of this section, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or

not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources, and in the case of any oil or gas exploration or production well (with its associated equipment), such emissions shall not be aggregated for any purpose under this section.

(B) The Administrator shall not list oil and gas production wells (with its associated equipment) as an area source category under subsection (c) of this section, except that the Administrator may establish an area source category for oil and gas production wells located in any metropolitan statistical area or consolidated metropolitan statistical area with a population in excess of 1 million, if the Administrator determines that emissions of hazardous air pollutants from such wells present more than a negligible risk of adverse effects to public health.

(5) Hydrogen sulfide

The Administrator is directed to assess the hazards to public health and the environment resulting from the emission of hydrogen sulfide associated with the extraction of oil and natural gas resources. To the extent practicable, the assessment shall build upon and not duplicate work conducted for an assessment pursuant to section 8002(m) of the Solid Waste Disposal Act [42 U.S.C. 6982(m)] and shall reflect consultation with the States. The assessment shall include a review of existing State and industry control standards, techniques and enforcement. The Administrator shall report to the Congress within 24 months after November 15, 1990, with the findings of such assessment, together with

any recommendations, and shall, as appropriate, develop and implement a control strategy for emissions of hydrogen sulfide to protect human health and the environment, based on the findings of such assessment, using authorities under this chapter including sections[3] 7411 of this title and this section.

(6) Hydrofluoric acid

Not later than 2 years after November 15, 1990, the Administrator shall, for those regions of the country which do not have comprehensive health and safety regulations with respect to hydrofluoric acid, complete a study of the potential hazards of hydrofluoric acid and the uses of hydrofluoric acid in industrial and commercial applications to public health and the environment considering a range of events including worst-case accidental releases and shall make recommendations to the Congress for the reduction of such hazards, if appropriate.

(7) RCRA facilities

In the case of any category or subcategory of sources the air emissions of which are regulated under subtitle C of the Solid Waste Disposal Act [42 U.S.C. 6921 et seq.], the Administrator shall take into account any regulations of such emissions which are promulgated under such subtitle and shall, to the maximum extent practicable and consistent with the provisions of this section, ensure that the requirements of such subtitle and this section are consistent.

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[3] So in original. Probably should be "section"

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(s) Periodic report

Not later than January 15, 1993 and every 3 years thereafter, the Administrator shall prepare and transmit to the Congress a comprehensive report on the measures taken by the Agency and by the States to implement the provisions of this section. The Administrator shall maintain a database on pollutants and sources subject to the provisions of this section and shall include aggregate information from the database in each annual report. The report shall include, but not be limited to—

(1) a status report on standard-setting under subsections (d) and (f) of this section;

(2) information with respect to compliance with such standards including the costs of compliance experienced by sources in various categories and subcategories;

(3) development and implementation of the national urban air toxics program; and

(4) recommendations of the Chemical Safety and Hazard Investigation Board with respect to the prevention and mitigation of accidental releases.

6. 42 U.S.C. 7521 provides in pertinent part:

Emission standards for new motor vehicles or new motor vehicle engines

(a) Authority of Administrator to prescribe by regulation

Except as otherwise provided in subsection (b) of this section—

(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d) of this section, relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

(2) Any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

(3)(A) IN GENERAL.—(i) Unless the standard is changed as provided in subparagraph (B), regulations under paragraph (1) of this subsection applicable to emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, and particulate matter from classes or cate-

gories of heavy-duty vehicles or engines manufactured during or after model year 1983 shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.

(ii) In establishing classes or categories of vehicles or engines for purposes of regulations under this paragraph, the Administrator may base such classes or categories on gross vehicle weight, horsepower, type of fuel used, or other appropriate factors.

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